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**Outsourcing** may save less than you think. There are hidden costs in evaluating the vendors, hiring contract managers, traveling overseas, beefing up security and paying severance benefits to laid-off workers. **PAGE 39**



## COSTLY Surprises

### Sun, HP Enhance RISC Chips, But Opteron May Provide Edge

As AMD chip gains momentum, HP may have to alter approach

**BY PATRICK THIBODEAU**  
 Sun Microsystems Inc. and Hewlett-Packard Co. this week plan to announce products that reinforce their existing hardware strategies while sharpening their differences.

Both companies will announce new RISC chips, and both are claiming substantial performance gains.

#### New Products

##### HEWLETT-PACKARD

■ **128-way HP9000 Superdome server:** Pricing begins at \$309,000.

■ **Entry-level Integrity Server:** Pricing below \$3,000, with two low-voltage Intel Itanium 2 processors.

##### SUN MICROSYSTEMS

■ **Sun Fire E Series servers:** Pricing from \$50,000 to \$1 million.

■ **Opteron systems:** One- through four-way servers running Linux and Solaris, certified for Windows. Pricing was unavailable at press time.

But Sun is going a step further. In detailing plans for its Opteron-based servers, it said it will ultimately produce an eight-way system based on the 64-bit processor from Advanced Micro Devices Inc. It may become difficult for many companies to ignore the Opteron chip, which is finding a home in Linux clusters and impressing users.

One of those users, Dan Agronow, vice president of technology at Atlanta-based weather forecasting service The Weather Channel Interactive Inc., is using Opteron servers from IBM but welcomes broader adoption of the chip by hardware vendors.

"If I can also buy [Opteron-based systems] from HP and Sun, that just makes it a more compelling choice," said Agronow, noting that having more vendors to choose from typically drives down prices.

Sun's RISC chip, the UltraSparc 4, uses chip multithread-

RISC Chips, page 16

#### INVESTIGATIVE REPORT

### Amex on the Defensive About Offshore Plans

Financial services firm may move up to 70% of development work offshore, sources say

**BY LUCAS MEARIAN**

Despite a denial by American Express Co., sources familiar with the company's IT planning insist that it has an internally stated goal to shift a major portion of its software development to offshore locations.

The sources said that New York-based Amex plans to move as much as 70% of development work offshore. That shift is an ongoing business objective, they said.

An Amex spokesman last week dismissed the 70% figure and denied that the financial services company is making any fundamental shift in the amount of devel-

opment work it sends offshore. But one former Amex IT worker, who said he left the company because he disagreed with the offshore policy, hotly disputed that.

"They tell [the media] one thing and tell us another. I've

seen it. I was there," the former employee said. "I was the guy training these [offshore-worker] greenhorns. They're asking me to transfer my skills to someone making \$4 an hour."

The sources were unable to say what portion of the company's development work is currently handled offshore, and Amex declined to comment, citing a policy

Amex Offshore, page 53

#### ONLINE

To read more stories on outsourcing, visit our Web site: [QuickLink a2290](http://QuickLink.a2290)

### Weak Dollar May Raise Costs

**BY PATRICK THIBODEAU AND THOMAS HOFFMAN**

U.S. companies that outsource work to nearshore and offshore developers are facing the prospect of higher costs as a result of the decline in value of the U.S. dollar.

While intense competition among Indian service providers is likely to keep prices for IT services stable in the near term,

U.S. companies can expect to eventually see prices rise as those providers try to offset currency pressures and rising wages, offshore outsourcing experts said last week.

"It's a hit to our bottom line," said Pawan Kumar, chairman of Bangalore-based vMoksha Technologies, referring to the declining dollar. But Kumar said

Weak Dollar, page 53

NEWSPAPER

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Senior Systems Architect, Motorola

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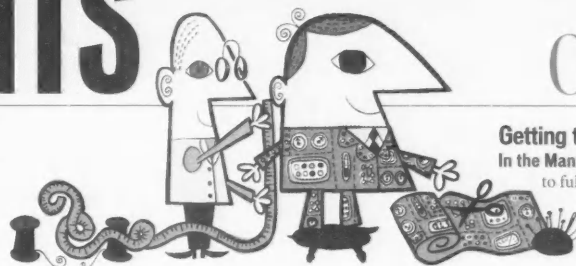


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## Low Draw for Smart Cards

**In the Technology section:** Smart cards can deliver significant security and cost benefits, say users. But widespread corporate adoption continues to lag because of concerns about technology interoperability and cost. **Page 30**



## Getting the Right Fit

**In the Management section:** CIOs need to fully investigate a company's culture, politics and executives before agreeing to take a new job, advises former CIO Doug Lewis. **Page 44**

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## ONLINE

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### 10 Tips for Offshore Project Success

**OUTSOURCING:** Effective onshore management is the key to getting benefits promised by offshore vendors, according to Craig Rintoul, a senior consultant at the PA Consulting Group. **QuickLink 44488**

### Xserve Offers Power, Choice

**MACINTOSH:** For administrators at companies needing fast, reliable network services, the Xserve G5 seems like a dream machine, says columnist Ryan Faas. **QuickLink 44489**

### Securing Bluetooth Devices

**MOBILE/WIRELESS:** The wireless standard is becoming increasingly popular, but it presents unique security risks.

**QuickLink 44381**

### The Business Case for Software Reuse

**DEVELOPMENT:** There's a quick and simple way to explain the ROI benefits of reuse to management. **QuickLink 44462**

### Five Keys to Identity Management Success

**SECURITY:** Michel Prompt, founder and CEO of Radiant Logic Inc., offers tips on planning and deploying identity management technology. **QuickLink 44539**

### What's a QuickLink?

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## AT DEADLINE

### EDS, Navy Try to Fix Intranet Rollout

Electronic Data Systems Corp. announced a series of changes designed to "stabilize" the Navy/Marine Corps Intranet program and said it's writing off \$559 million worth of deferred costs related to the \$6.9 billion contract. EDS has reorganized its N/MCI account team and is working with the U.S. Navy to improve coordination and develop a more predictable rollout schedule. The company said the N/MCI write-off and other charges led to a fourth-quarter net loss of \$354 million.

### Check Point Warns Of Flaw in Firewall-1

Check Point Software Technologies Ltd. confirmed that a security flaw in its firewall software could be used to crash the product and might "allow further exploitation." Redwood City, Calif.-based Check Point said the flaw poses a threat only to customers using the HTTP Security Server application proxy that comes with the Firewall-1 tool. The company posted an upgrade to fix the problem.

### Linux Group Seeks Entry to Data Center

In a bid to accelerate the use of Linux in data centers, Open Source Development Labs Inc. released a document outlining technical capabilities that the operating system needs in order to run enterprise-class applications. The Beaverton, Ore.-based consortium, which includes IT vendors and Linux users, listed and prioritized more than 300 desired new features.

### Compuware Buys Covisint's Assets

Compuware Corp. said it's buying the assets of Covisint LLC, a Southfield, Mich.-based vendor of business-to-business tools for the automotive industry. Detroit-based Compuware didn't disclose the purchase price.

# Little Increase in Fed IT Spending Proposed

White House asks for 8% more in DHS '05 IT budget, 1%-2% for other agencies

BY DAN VERTON  
WASHINGTON

THE WHITE HOUSE last week released the details of its proposed fiscal 2005 IT budget, which is showing signs of increased strain amid a ballooning federal deficit, the continued war on terrorism and the urgent demands of homeland security.

The Bush administration requested \$59.8 billion for its governmentwide IT budget in fiscal 2005 — a trivial increase from the current \$59.1 billion budget, with homeland security being the main growth area. While the IT budget for civilian agencies increased by a mere 1% and defense just 2% compared with this year's, the Department of Homeland Security's proposed IT budget grew by more than 8%.

Karen Evans, administrator for e-government and IT at the Office of Management and Budget and director of the federal CIO Council, said that despite the meager increase outside of homeland security, the IT budget is a "good-news story" that shows that government agencies are making real progress in IT management.

The whole premise was to get agencies to look at their IT portfolios as a whole and prioritize, said Evans, referring to the guidance given to agency CIOs by the OMB. Another key intent of the process was to force agency CIOs to plan for common IT systems that can be used governmentwide.

In fact, Evans said, agencies such as the DHS that are about to move forward on human re-

sources and financial management contracts must ensure that those programs and contractors are flexible enough to migrate to a common, governmentwide system once it has been selected.

"We don't want to stop something if they're on the cusp of being successful. But we do want to make sure that it can marry up with the common solution," she said.

Evans acknowledged that security remains a key factor in determining how much new money agencies will have to spend on IT infrastructure development, modernization and enhancement (DME). In addition to a cut of 5.66% in this year's budget for

DME projects, agencies are being forced to first demonstrate that they have the appropriate security protections in place before they are allowed to deploy new systems. And money for security improvements may have to come out of DME funds at some agencies, Evans said.

Customs and border protection, as well as initiatives aimed at port, transportation and immigration security, remain driving forces behind the DHS IT budget increase.

Of the \$890 million added to the budget of the Transportation Security Administration, nearly 15%, or \$131 million, has been earmarked for a DHS-wide strategy governing access control, real-time validation of identities and the determination of access privileges at secure TSA sites.



KAREN EVANS says security drives federal IT budget increases.

## Pentagon Drops Web Voting Plans for Military Personnel

BY TODD R. WEISS

The Department of Defense has decided, at least for now, to drop its efforts to give overseas U.S. military personnel voting access over the Internet, because of concerns about the security of the system.

In a Jan. 30 memo to David Chu, the undersecretary of Defense for personnel and readiness, Deputy Secretary of Defense Paul Wolfowitz wrote that "in view of the inability to ensure legitimacy of votes that would be cast in the SERVE Internet voting project, thereby bringing into doubt the integrity of the election, I hereby direct you to take immediate steps to ensure that no voters use the system to register or vote via the Internet."

The memo was released Thursday by a Pentagon spokesman who was asked about the status of the controversial voting program known as the Secure Electronic Registration and Voting Experiment, or SERVE.

### Not Dead Yet

Wolfowitz wrote in the memo that "efforts will continue to demonstrate the technical ability to cast ballots over the Internet." He added that he might reconsider his decision "if it can be shown that the integrity of the election results can be assured."

The Wolfowitz memo came nine days after four technology experts criticized SERVE in a 34-page report to the De-

## 2005 IT Budget



SOURCE: THE WHITE HOUSE

Also important to the DHS is a significant increase in money for the financial management goals of the massive new agency. The president's fiscal 2005 budget proposal nearly doubles funding for the DHS's E-Merge program to \$81 million. The goal of E-Merge is to integrate and streamline the DHS's financial and acquisition management systems across its 22 federal departments.

44603

fense Department's Federal Voting Assistance Program [QuickLink 44219].

One of the writers of the report, Barbara Simons, a former president of the Association for Computing Machinery, said she's pleased with the decision. "We're moving ahead too quickly," she said. "It's possible in the foreseeable future that it will be safe to vote on the Internet, but it may never be."

One problem is that, unlike with paper ballots and voting machines, there's no audit trail for online votes, so there's no way to be certain whether votes are counted, Simons said.

"Our great fear is that there will be a major move to Internet voting, which I personally feel is a threat to our democracy. The bottom line is we could have our president selected by [hackers in] Iran," Simons said. "We basically feel they are trying to solve

### 'BIOSENSE' PROJECT

The 2005 federal budget includes a \$100 million medical early-warning system.

QuickLink 44604  
www.computerworld.com

## Oracle Challenges Microsoft in Low-End Database Market

### Cuts entry-level price of 10g to \$4,995 per CPU

BY MARC L. SONGINI

Taking aim at Microsoft Corp.'s low-end database dominance, Oracle Corp. last week slashed the price of the entry-level version of its 10g software to slightly undercut the cost of Microsoft SQL Server.

Oracle said the list price of the 10g Standard Edition One release has been reduced to \$4,995 per processor, a \$1,000 drop from the company's previous low-end database pricing. In comparison, SQL Server starts at \$4,999 per CPU.

Oracle also cut the price of its named-user license for Standard Edition One, which is designed for small businesses and departmental applications. In addition, it doubled the number of processors that the software can support to two.

In a related move, Oracle said it will throw in its Real Application Clusters (RAC) technology at no extra charge for users of 10g Standard Edition

tion, another release that supports up to four processors. The 10g databases were announced in September and became available late last month.

Oracle's new pricing "is leveling the playing field, and the competition is not so much based on dollars as features," said Kim Floss, a database administrator and president of the database-oriented International Oracle Users Group in Chicago. The ability to run 10g Standard Edition One on two-processor servers is also a big gain for users, Floss said.

### Seeking Savings

Pat Dues, project officer for the city manager's office in Las Vegas, said the pricing moves should help Oracle compete against both SQL Server and IBM's low-end DB2 offerings.

### PRICING CHANGES

#### Oracle Database 10g Standard Edition One

	BEFORE	NOW
Per-processor licenses	\$5,995 per CPU	\$4,995 per CPU
Named-user licenses*	\$195 per user	\$149 per user

\* Five-user minimum

The Las Vegas municipal government next year plans to upgrade to the upcoming Version 11i.1 of Oracle's E-Business Suite of business applications and add new modules, such as its project management software. Dues said she will consider using the new database pricing to cut costs as part of the upgrade process.

"We think it's a very positive announcement," she said. "Everybody wants to look at ways to save money."

Chuck Phillips, one of Oracle's two presidents, said in a

meeting with analysts two weeks ago that the company planned to take on Microsoft aggressively in the low-end market [QuickLink 44394].

The new pricing was designed to be "extremely competitive," said Jacqueline Woods, vice president of global practices, pricing and licensing strategy at Oracle, in an interview last week. Woods said 10g also comes with a simplified management interface, and she noted that the RAC technology wasn't even available for the Standard

Edition release before.

Tom Rizzo, director of SQL Server product management at Microsoft, downplayed the pricing moves. Even if Oracle lowered the price of its database to nothing, the maintenance and support costs would still outweigh the cost of running SQL Server, Rizzo claimed. "What about reporting, OLAP and data mining? That's all included in SQL Server," he added.

List prices are "relatively unimportant" because database vendors typically offer discounts to users, said Mike Schiff, an analyst at Current Analysis Inc. in Sterling, Va. What really counts is the annual cost of maintaining the software, he noted. **44578**

### MORE NEWS ONLINE

Oracle raises its hostile takeover offer for PeopleSoft to \$9.4 billion.

QuickLink 445183  
www.computerworld.com

## EMC Upgrades Symmetrix As Part of Storage Overhaul

BY LUCAS MEARIAN

EMC Corp. today plans to announce upgrades of all of its disk arrays and network-attached storage (NAS) devices, as well as some of its key storage management applications.

The rollout includes the second generation of EMC's high-end Symmetrix DMX arrays, which debuted last February. Raw storage capacity remains unchanged at 84TB, but EMC said it increased the speed of the processor built into the arrays to 1 GHz, doubled the amount of cache memory to 256GB and added 15,000 rpm Fibre Channel disk drives. That's double the throughput of the 1Gbit/sec. drives EMC previously used.

EMC is also introducing an NS700 NAS device with a file server head that can be removed and used as a gateway between servers and storage-area networks, in addition to upgraded models of its Clarion midrange arrays.

The new hardware and soft-

ware supports EMC's emerging information life-cycle management (ILM) strategy, which is designed to provide tools that can automatically migrate data to different types of storage devices and manage it from creation to deletion.

Ohio Savings Bank recently installed about 30TB of tiered storage capacity from EMC as part of an ILM architecture. CTO Jo Ann Boylan said the bank uses Symmetrix DMX for primary data storage, Clarion CX600 arrays for secondary storage, Celerra file servers for sharing files, and Centera Compliance Edition devices for archiving information.

Although the storage infrastructure isn't being automatically managed, Boylan said storing data on different media according to the importance and age of the information is expected to save the bank millions of dollars. "We'll get huge lift out of this in how we manage storage," she said. Matt Speare, director of IT

infrastructure and security, added that the bank now also has a single, enterprisewide view of its storage architecture.

EMC said one of the key ILM-related upgrades being announced this week is the addition of support for the Storage Management Interface Specification to its management software. SMI-S is a set of common models and protocols designed to let storage management applications control storage devices made by different hardware vendors.

### More New Products

**CENTERA:** EMC's disk array for archiving e-mail and other fixed data now includes mainframe connectivity support.

**CONTROLCENTER:** The upgraded storage management software can view EMC's NAS devices as if they were part of a SAN.

**AUTOSWAP:** It works in conjunction with EMC's Symmetrix Remote Data Facility software to migrate data between mainframes and Symmetrix arrays without disrupting applications.

EMC is adding SMI-S compliance to Symmetrix models that date to 1997 and to Clarion arrays from 2000 on, said Chuck Hollis, its vice president of platform marketing.

Peter Gerr, an analyst at Enterprise Storage Group in Milford, Mass., said SMI-S support is important for EMC because some of its top storage rivals have already announced compliant products.

Gerr added that he's impressed by EMC's ability to choreograph a complete product relaunch while it absorbs three major software vendors it has either bought or agreed to acquire since July.

"Anyone who thought their binge of software acquisitions was going to distract them from their bread-and-butter business of selling world-class storage systems is wrong," he said. "This reinforces the fact that they're still a storage company." **44597**

### TEAMING UP

EMC will jointly announce its new Clarion arrays with Dell, which makes and resells the midrange devices.

QuickLink 44600  
www.computerworld.com

an impossible problem."

Polli Brunelli, director of the Federal Voting Assistance Program, wasn't available for comment.

While the military looks for a solution to the security problem, online voting is set to take place this week for the first time in the Michigan Democratic caucuses, according to Simons. That's worrisome, she said, because "this is a much, much harder problem than trying to do commerce over the Internet." **44605**

**The bottom line is we could have our president selected by [hackers in] Iran.**

**BARBARA SIMONS,**  
FORMER PRESIDENT, ASSOCIATION  
FOR COMPUTING MACHINERY

## BRIEFS

## HP Agrees to Buy Tools Vendors ...

Hewlett-Packard Co. is buying management tools vendors Novadigm Inc. and Consera Software Corp. HP plans to combine Novadigm's automated systems-configuration management software and Consera's IT resources mapping tools with its OpenView product line. It will pay about \$122 million for Mahwah, N.J.-based Novadigm. Terms of the deal with Bellevue, Wash.-based Consera weren't disclosed.

## ... and Renews IT Deal With Nokia

In other HP news, the company said it has tentatively agreed to renew and expand an IT outsourcing contract with Nokia Corp. that was signed in September 2001. The deal is being extended by five years, to 2009. HP manages global IT infrastructure operations for Nokia, which last month agreed to outsource its desktop systems and some of its help desk operations to IBM.

## Microsoft Patches IE Security Flaws

Microsoft Corp. released a software patch to plug three security holes in its Internet Explorer Web browser. The company said it issued the update outside of its monthly patch cycle because of the seriousness of the flaws. The update includes an antiphishing change, plus fixes for vulnerabilities that could let attackers run malicious code on computers.

## Sun Adds Apps For Solaris on Intel

Sun Microsystems Inc. introduced a version of its StarOffice 7 desktop applications suite for use on Intel-based systems running the Solaris operating system. The company said it plans to release a full set of its Java Desktop System software for Solaris x86 later this year.

MARK HALL ■ ON THE MARK

## Toyota Scours Hyperion Beta Before ...

... it rolls out the final release late this month. "We've been testing the [Hyperion Performance Suite] beta since October," says Mike Burkes, data technology manager at Toyota Motor Sales USA Inc. in Torrance, Calif. "We've thoroughly tested it for three or four thousand hours because the business applications that use it are so important." In two weeks, Sunnyvale, Calif.-based Hyperion Solutions Corp. will announce the general availability of Version 8.2 of the business intelligence software it acquired with Brio Software Inc. last fall. The new version adds full support for Linux, guided analysis, dashboard features, Web services hooks and integration with unstructured data. Burkes appreciates those features but is mostly **jazzed by the improved management and performance**, which are vital for culling through data that's updated with 10 million transactions per day. Burkes says that with 8.2, he'll be able to consolidate the software on fewer servers, yet still be able to handle the end-of-month spikes in demand. Burkes

Web I can put in the dashboard." Even, he admits, data from competing business intelligence software from the likes of Cognos Inc. and Actuate Corp. "Toyota honchos may need to minimize their dashboards sometime in the near future if they join online conferencing sessions run by Raindance Communications Inc. Later this quarter, the Louisville, Colo., conferencing service provider will **unveil its updated service, code-named K2, which will include interactive video**. The Meeting Edition will be able to handle dozens of users during a single session. K2's tight integration with audio means that video

will automatically shift to the speaker. Or a participant can hold the video on a single person, either the best-looking or, most likely, the most senior attendee, says Todd Vernon, Raindance's chief technology officer. "Video gives you nuance," he maintains. "So, you'll know when to stop talking if the boss is looking bored."

## Fight Viruses Remotely

Esel LLC in Coronado, Calif., will announce this week the availability of NOD32 Remote Administrator, which lets systems administrators install or update thousands of NOD32 antivirus programs on PCs across a LAN or WAN. The antivirus software can scan up to 5,800MB of executable files per second. The Remote Administrator comes with five end-user licenses and starts at \$261.

## Sprint, IBM Combine on Network Services

BY MATT HAMBLEN

Sprint Corp. and IBM last week announced a five-year, multibillion-dollar call center outsourcing deal and said they're also working together to offer Sprint's network services to corporate users.

For example, Sprint said it's investing about \$100 million to adopt IBM's Service Provider Delivery Environment (SPDE) technology architecture, a set of products and services designed to help IT managers develop secure real-time mo-

bile access to e-mail systems and other corporate applications. Sprint's adoption of SPDE will let the telecommunications carrier provide mobile data access via its Sprint PCS wireless network and its voice and data networks. The biggest market need is giving mobile users secure access to sales force automation applications, Sprint President Len Lauer said at a press briefing.

Sprint and IBM have been working on SPDE for several months and are deploying

IBM middleware on a range of mobile devices at early adopter sites, said Terry Yu, vice president of product management and development at Sprint. Prior to the SPDE collaboration, the two companies worked with the Air Force Materiel Command's logistics center at Hill Air Force Base in Ogden, Utah, to deploy Pocket PC devices for wireless access to e-mail and calendar functions [QuickLink 38340].

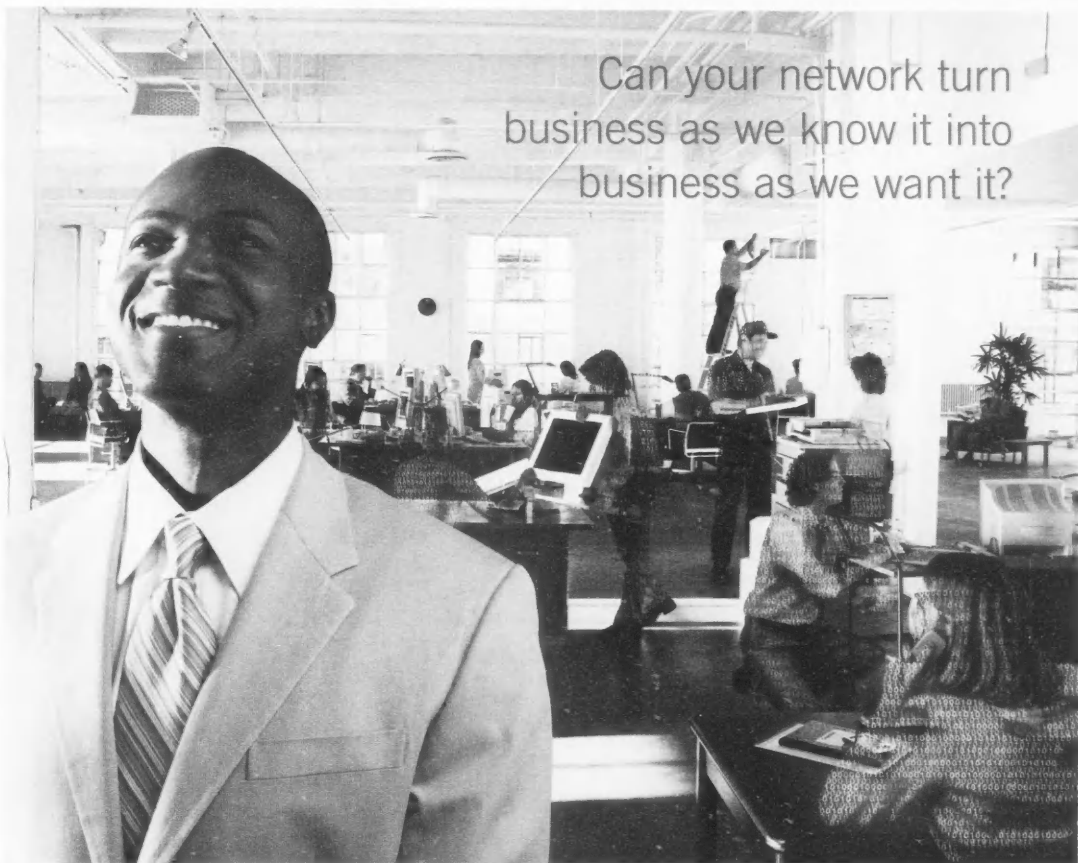
The \$100 million investment in SPDE is small compared

Although Vernon acknowledges that the combination of video with voice has been slow to catch on since AT&T introduced the notion at the 1964 World's Fair, he thinks improvements in the technology and the difficulty of business travel in this post-9/11 world change the equation. "Besides, it's pretty freakin' valuable to see someone on video," he exclaims. "It's likely you'll be seeing many more Web services applications this year. Ed Horst, vice president of marketing at AmberPoint Inc. in Oakland, Calif., brags that his company had its **best financial period ever in Q4 of last year** and he says the current fiscal quarter will beat that. The Web services management company hopes that the shipment later this month of AmberPoint 2004 Release 1 will spur even more sales. The updated software is designed to let you monitor Web services applications from the start of their HTTP traffic through all the XML and SOAP transactions. It also adds a **T-filter agent, which prevents data in packets from being altered** and manages UDDI registration. And the update adds IBM WebSphere server support to its Tomcat and .Net offerings. Pricing starts at around \$50,000. "An e-commerce Web site is the **most complex technical system on the planet**," argues Steve Kusmer, CEO of Atomz Corp. in San Bruno, Calif. Perhaps. But even if you think they're a snap to deploy, you should take a gander at Atomz's updates to the hosted Web commerce operations the company sells. The improvements include a guided shopping capability that speeds buyers' navigation to online offerings and a new content-management engine that propagates changes in one area of a Web site to all related sections. And it's pretty fast, Kusmer boasts. The search engine can handle **400 searches per second**, he claims. The new services get turned on this week. **44586**

with the cost of Sprint's consumer call center outsourcing deal with IBM. But the SPDE plan is "strategically important" to Sprint in its battle with other carriers for corporate users, said Lisa Pierce, an analyst at Forrester Research Inc. "This move will help them get into the largest companies," she said.

IBM will manage 22 Sprint call centers and the IT systems that support them as part of the agreement. Lauer said Sprint expects the deal to lower its customer service costs by \$550 million over the next three years. **44581**





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# IBM Shows Strength in Numbers at EclipseCon

Conference draws over 200 companies, but IBM's presence at event looms large

BY CAROL SLIWA  
ANAHEIM, CALIF.

IBM OFFICIALS said the turnout for last week's inaugural EclipseCon 2004 exceeded their expectations by drawing 634 paid attendees from 226 companies and 23 countries.

But while that may reflect the broadening interest in and, in some cases, even enthusiasm that some developers have for the open-source Eclipse platform, tools and plug-ins that IBM created, there also was no doubt which company maintained the heaviest presence at the event.

IBM employees easily outnumbered the contingent that any other company sent to EclipseCon. The company's 127 paid attendees represented 20% of the total. And there may have been more, since the figures reflect only paid attendance, a spokeswoman said.

"It just still shows no matter what, especially in the begin-

ning, that IBM is still going to be the primary driver of Eclipse as far as where it's going," said Thomas Murphy, an analyst at Stamford, Conn.-based Meta Group Inc.

Murphy said he's interested to see how new board members influence the direction of Eclipse as its management or-

ganization transitions to an independent entity and how closely they will follow standards produced by the Java Community Process (JCP) that Sun Microsystems Inc. established to evolve Java technology.

But several of the 58 members of the newly independent Eclipse management organization said they were pleased to see IBM relinquish control of Eclipse, are convinced that IBM is committed to open development and expect to play an influential role in setting Eclipse's direction.

David Mercer, CEO of Scapa Technologies Ltd. in Edinburgh, said his 25-person com-

pany has expertise in testing and performance tools and was welcomed by IBM and other large vendors.

"We're setting up a test and performance infrastructure for Eclipse upon which test tools will be built," he said. "We're running this project, and we're a small company. Quite clearly, IBM could just come in, but they haven't done that."

But IBM clearly will still be a major force behind Eclipse. Lee Nackman, vice president of desktop development tools and chief technology officer of IBM's Rational software division, said the company has no plans to cut back on its commitment now that more vendors will be sharing the management load.

"Eclipse is really important to IBM. I'm basing my whole tool product line on the Eclipse technology. This is not a game for us," Nackman said. He noted that some of the IBM attendees at last week's conference were part of the Eclipse development team and others are developing IBM products that use Eclipse.

Beyond the IBM employees and Eclipse members, the gen-

## MORE THIS ISSUE

Columnist Nicholas Petreley weighs in on the SWT vs. Swing debate. **Page 36**

## Sun Official Delivers Conference Keynote

ANAHEIM, CALIF.

Sun Microsystems is one of the prominent Java vendors that decided not to participate in the newly independent, nonprofit corporation that rival IBM spun off to manage the open-source Eclipse development framework it created.

But that decision didn't stop Sun from accepting an invitation to speak at the inaugural EclipseCon here. Simon Phipps, Sun's chief technology evangelist and a former IBM employee, noted that a conversation with one of his former colleagues led to the speaking engagement. "I'm here

really because there's no ax to grind between Sun and Eclipse," Phipps told more than 250 conference attendees.

The Sun official steered clear of controversy during the main portion of his keynote, preferring to focus on the history of open-source software development and draw comparisons to the rise of craft guilds prior to the industrial revolution. But when he opened the floor to questions, he got the one he anticipated.

Phipps told the group that Sun "might very well" join Eclipse, if the conditions that originally caused the company to decline

the invitation have changed. Sun, in a statement issued days before the EclipseCon kickoff, said the "sticking points" were business-related, not technical.

Sun's commercial tools are based on its NetBeans open-source development environment, and the company, in its statement, objected to what it called "the required mandatory transition to the Eclipse platform" that it claimed it would have to make by joining the organization.

But Lee Nackman, vice president of desktop development tools at IBM, said no such requirement exists, so he sees no

reason why Sun won't join in.

Although Phipps didn't rule out the possibility, he also said that it would be best for the Java community if the newly independent Eclipse organization joined the Java Tools Community that 10 vendors — led by Sun, Oracle Corp. and BEA Systems Inc. — forged last month.

"Then all the vendors that make Java tools would be able to get together and solve our shared problems," he said.

Phipps said he would also love to see Eclipse explore the possibility of participating in the JCP that Sun established to evolve Java.

— Carol Sliva

## KEY NEW FEATURES

# Eclipse 3.0

**ALLOWS developers** to embed Swing components and Abstract Window Toolkit widgets within a user interface built on Eclipse's Standard Widget Toolkit. Swing/AWT interoperability is supported on Windows; Linux work is ongoing.

**INTRODUCES Rich Client Platform**, which allows developers to use a subset of the Eclipse development tool platform to build applications that aren't integrated development environments, such as business applications with a Windows-based graphical user interface.

**RCP significantly reduces** the amount of code a developer needs to write to build the user interface.

**PROVIDES new ways** to customize the Eclipse workbench user interface to show only the subset of functionality a certain developer or set of developers may need.

**IMPROVES the responsiveness** of the user interface by allowing operations such as builds and searches to run asynchronously in the background, so users don't have to wait for long operations to finish.

eral attendees showed keen interest in new features in the Eclipse 3.0 release that's due to be finalized in June.

One feature that caught the attention of several conference attendees was the work done to allow Swing components and Abstract Window Toolkit (AWT) widgets to be embedded in an interface built on Eclipse's Standard Widget Toolkit (SWT). Swing and AWT, which are used to build graphical user interfaces, were endorsed by the JCP. But IBM broke ranks when it introduced its SWT widgets. IBM officials said Swing/AWT interoperability is solid now on Windows, but there's still more work to do on Linux.

Rich Main, director of Java development environments at SAS Institute Inc., said the company's goal is to port its AppDev Studio tool to Eclipse. But he noted that SAS has developed a large set of Swing components and it would be too expensive to reimplement them on SWT.

John Repko, a computer engineer at the Naval Undersea Warfare Center in Newport, R.I., said he needs to make sure that commercially available Swing-based map applications will run in an Eclipse application. "Not having to write that ourselves is important," he said.

Another new feature in Eclipse 3.0 that developers flocked to hear about in presentations was the Rich Client Platform, which will significantly reduce the amount of code needed to write graphical user interfaces. The Eclipse RCP effort is intended to enable developers to build a wide range of business applications — not just integrated development environments.

A developer at a defense contractor who asked not to be identified said that his company doesn't currently use Eclipse and that the technology's security isn't as mature as he had hoped it would be. He said he is also concerned about the learning curve but expects to recommend Eclipse to his company "because any other way we'd go, we've have to start from scratch." **44611**



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## BRIEFS

## Novell Names SUSE CEO to Europe Job

Novell Inc. appointed Richard Seibt, head of its recently acquired SUSE Linux business unit, to take over as president of the software vendor's European operations. Seibt, who was CEO of SUSE Linux AG prior to its acquisition by Novell, will be responsible for all day-to-day operations in Europe. He replaces Gerard Van Kemmel, who was named chairman of European operations.

## Federal Agencies Appoint New CIOs

Two federal agencies named new CIOs. The Department of Veterans Affairs tapped Robert McFarland, formerly head of government relations at Dell Inc., to be its assistant secretary for IT and CIO. And the Export-Import Bank of the U.S. said Fernanda Young will take over as its CIO today. She held a similar job at the Federal Energy Regulatory Commission.

## Cisco Reports 15% Revenue Gain ...

Cisco Systems Inc. reported a 15% year-over-year increase in revenue for its second quarter, which ended Jan. 24. Profits fell 27% but would have risen if not for a \$567 million charge. Cisco said component supply problems that hurt shipments early in the quarter have largely been fixed.

## BY THE NUMBERS

	REVENUE	PROFIT
Q2 FY04	\$5.4B	\$724M
Q2 FY03	\$4.7B	\$991M

## ... And Warns of Software Flaw

Cisco also issued an advisory about a software vulnerability that affects some configurations of its 7600 series routers and its Catalyst 6000 and 6500 switches. The flaw could be used to freeze the devices or for denial-of-service attacks, said Cisco, which posted upgrades to fix it.

## Extreme Switch Boosts Power at Network Edges

Device includes Gigabit Ethernet ports and support for 10Gbit/sec. connections

BY MATT HAMBLIN

**E**XTREME NETWORKS Inc. last week announced a switch for use in wiring closets at network edges. It's the first device of its kind to provide two 10 Gigabit Ethernet uplinks to core networks, according to analysts.

In addition to the optional 10 Gigabit Ethernet connections, the Summit 400-48 switch includes 48 ports that each support up to Gigabit Ethernet transmission rates to desktop PCs and servers, said Varun Nagaraj, vice president of product management at Extreme in Santa Clara, Calif.

Installing the switches will help companies "eliminate upgrade cycles" as IT managers

look to push data to desktops at faster speeds, Nagaraj said.

The number of companies that need Gigabit Ethernet connections to the desktop is limited now but is growing among power users and IT shops that want to connect systems in server farms, said IDC analyst Brad Germanow. He added that Extreme is the first vendor he knows of to offer an edge switch with dual 10 Gigabit Ethernet ports.

Daniel Morreale, CIO at North Bronx Healthcare Network (NBHN) in New York, said he plans during the next five months to install up to 20 Summit 400-48 devices, following a successful two-week test of two switches — one within the IT department and

## NEW HARDWARE

## Summit 400-48

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another that supported a patient-care unit.

"They're working wonderfully, being used for intense bandwidth needs such as obstetrics and cardiac imaging," he said, adding that the use of the switches "has been trans-

parent" to IT managers as well as end users.

Morreale started installing nearly 150 Extreme switches and routers in September to replace 7-year-old gear from Cisco Systems Inc. The changeover came after NBHN decided to upgrade its network to support a 10 Gigabit Ethernet core. "I started doing pricing on the upgrade, and it came down to Cisco and Extreme, but Extreme was significantly lower in cost," Morreale said, though he declined to disclose specifics.

The research group at the University of Pittsburgh's School of Information Sciences in Oakland, Pa., is also testing a Summit 400-48. The device is installed in a research network over which entire file systems are transferred, said Mark Stegert, the school's systems manager.

"Our research users have never encountered a network fast enough for them," Stegert said jokingly, adding that the new switch should help meet performance demands at a cost-effective price. **C 44573**

## Mobile Software Gets Pocket PC Support

BY BOB BREWIN

Good Technology Inc. last week announced a version of its messaging and remote data access software that supports handheld devices running Microsoft Corp.'s Pocket PC operating systems, as well as hardware from palmOne Inc. and Research In Motion Ltd.

Release 3.0 of the GoodLink software also supports the Advanced Encryption Standard (AES) and will be bundled into Good Technology's own line of handheld computers, said Susan Forbes, vice president of product marketing at the Sunnyvale, Calif.-based company.

Earlier GoodLink versions primarily supported delivery of corporate e-mail to wireless devices. But GoodLink 3.0 can work with the Pocket PC ver-

sions of Microsoft's Office applications, Forbes said. The combination will provide "a laptop experience" to users of Pocket PC-based handhelds and smart phones, she added.

By midyear, GoodLink 3.0 will also support what Forbes called "zero-touch" provisioning of Microsoft applications for mobile users. That feature will let IT managers push applications to end users over wireless networks, eliminating the need to physically load the software at a central location, she said.

In addition to the

product rollout, Good Technology announced that it has signed on three new users, including UnumProvident Corp. in Chattanooga, Tenn. UnumProvident, the largest disability insurer in the U.S., plans to roll out GoodLink 3.0 and about 300 of Good Technology's G100 handhelds to its sales force and senior executives over the next 12 months.

Brent Rogers, senior vice president of IT at UnumProvident, said his staff found GoodLink relatively easy to install and support as part of a test deployment.

"It's very simple from a support point of view," he said, noting that the installation required only the addition of an Intel-based system that runs GoodLink's server software component and handles traffic between the mobile

devices and UnumProvident's Outlook e-mail server.

Although UnumProvident is initially using GoodLink only for e-mail, Rogers said the company plans to broaden its use of the technology. He added that he thinks GoodLink provides more capabilities and adaptability than rival products, such as Research In Motion's BlackBerry family.

Other new features in GoodLink 3.0 include support for viewing attachments such as Adobe Acrobat files or Microsoft Excel spreadsheets on handheld devices, plus an e-mail in-box that's much like those found on laptop-based messaging systems.

Incorporating support for AES into the software should meet the demands of handheld users for stronger data-encryption capabilities, said Craig Mathias, an analyst at Farpoint Group in Ashland, Mass. "AES is very secure, and in the future, it's going to be essential," he said. **C 44606**





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# Users Tout Advantages of PLM Despite Difficulties

Faster time to market, lower costs cited

BY JAIKUMAR VIJAYAN  
ORLANDO

**D**ESPITE THE challenges, implementing a product life-cycle management capability can give manufacturing companies a competitive edge in a recovering economy, said users at a conference organized here last week by PLM software vendor MatrixOne Inc.

The benefits include faster time to market, lower costs and more component and

technology reuse, they said.

But the complex integration and customization issues that have long scared users off large PLM deployments continue to be substantial obstacles, they added.

"PLM is all about revenue growth," said Glen Waisner, president of The Hayes Co., a manufacturer of lawn and garden equipment in Valley Center, Kan.

The company, whose clients include big-name retailers such as Wal-Mart Stores Inc.

and Target Corp., recently implemented a PLM capability in a bid to gain better control over a chaotic product-development process.

PLM has led to much better visibility into Hayes' product-development process and has enabled product collaboration across multiple departments and with its major suppliers, some of which are based overseas, said Waisner. As a result,



The Hayes Co.'s GLEN WAISNER says, "PLM is all about revenue growth."

Hayes this year will manufacture 1,800 distinct products, compared with 500 last year. Some of those will be custom-made for individual clients.

For Invensys Rail Systems, implementing PLM has been about "efficiency improvement," said Ceri Gosling, CIO of the Wiltshire, U.K.-based manufacturer of rail automation and signaling systems. Allowing designers, engineers,

and procurement and marketing teams to work collaboratively on product development has led to better purchasing decisions, lowered product-recall costs and enabled better workflow between commercial and technical teams, Gosling said.

GE Consumer & Industrial in Plainville, Conn., has extended PLM beyond physical products and is using the concept to manage commercial documents such as invoices and purchase orders, as well as tax-filing systems, said CIO Stuart Scott. The company has put in place a massive collaborative environment called My Workplace that's aimed at improving product development efficiencies. It has also begun extending PLM to handle over 17 million commercial documents, Scott said.

"PLM can help companies decide what products to invest in and what to drop," said Marc Halpern, an analyst at Stamford, Conn.-based Gartner Inc. "It helps them allocate the right budget for product development, track schedules and analyze [product] performance in terms of revenue generation or quality."

But getting there is no easy feat. "Integration is key to PLM," said Mark O'Connell, president and CEO of Westford, Mass.-based MatrixOne. "Very little information is created in a PLM system. Instead, the attempt is to add value to the information [that already exists]." Doing this means tying together applications as disparate as engineering and design, ERP, CRM and supply chain systems, he said.

Often, because product development processes can vary widely, either PLM products have to be heavily customized to fit specific environments, or business processes have to be tweaked to accommodate the PLM capability. The quality of product-related data that a company maintains is also key to getting real benefits, users said.

"A lot of companies don't understand PLM," Halpern said. "PLM is almost like ERP was 15 years ago." **44602**

## Mydoom Lesson: Take Proactive Steps to Prevent DDoS Attacks

But putting up an adequate defense can be expensive

BY JAIKUMAR VIJAYAN

Dealing with a distributed denial-of-service attack such as the one that took down The SCO Group Inc.'s Web site last week continues to be a major challenge for companies, security experts said.

But several options are available to at least help alleviate the pain for those that become targets, they added.

A DDoS attack typically involves torrents of useless data, or requests for data, to targeted servers or networks.

The SCO attack, for instance, was launched using systems that had previously been infected by the Mydoom virus [QuickLink 44483]. The virus contained code that instructed thousands of infected computers to access SCO's Web site at the same time, ren-

dering it inaccessible to legitimate users.

Stopping the flood of traffic can be very difficult because it's coming from so many sources, said Bruce Schneier, president of Counterpane Internet Security Inc. in Mountain View, Calif.

"From a philosophical perspective, if the attacker's pipe is bigger than the defender's pipe, the attacker can always knock out the defender," said Schneier.

There are several approach-

es companies can take to prepare for attacks such as this, said Paul Mockapetris, inventor of the Internet's core Domain Name System and chairman of IP address management vendor Nominum Inc. in Redwood City, Calif.

One is to set aside extra network bandwidth and server processing capacity to withstand sudden surges in traffic, he said. Another is to "retreat from your domain name" and essentially park your Web site at another address while the attack plays out, he said.

Geographically distributing Web servers is another approach worth considering, Schneier said. That way, even if one server or network segment is taken down by an attack, normal traffic can be redirected to other servers.

But putting in place extra server processing capacity to handle DDoS attacks can be expensive and is likely to make sense only for larger companies, Mockapetris said. "There's a bit of a digital divide when it comes to the abil-

ity of companies to defend themselves against these attacks," he said.

"The long-term answer to DDoS protection has to be in the [service provider] networks and backbones," said John Pescatore, an analyst at Stamford, Conn.-based Gartner Inc. That's because upstream service providers are in a better position to detect and choke off traffic directed at a specific IP address, said Schneier.

As a result, it's a good idea to require service providers to offer some sort of guarantee against DDoS attacks, said Schneier. Gartner has in fact been advocating this for more than two years, urging users to include DDoS protection language in their service-level agreements with Internet service providers and data center hosting companies.

But less than 1% of companies overall are buying such services, Pescatore said. "Most enterprises say, 'It isn't raining, so the roof isn't leaking. Why fix it?'" he said. **44596**

### MORE ONLINE

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**QuickLink 41600**  
[www.computerworld.com](http://www.computerworld.com)

### TIPS

#### Dealing With DDoS

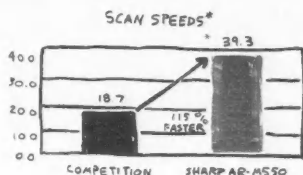
■ **Have extra network bandwidth and server headroom to handle sudden traffic spikes.**

■ **Have multiple, geographically dispersed servers for handling the load.**

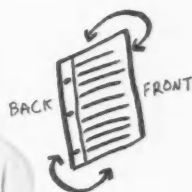
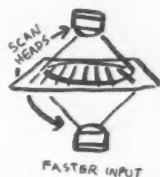
■ **Contractually require service providers to offer DDoS mitigation guarantees.**

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Continued from page 1

## RISC Chips

ing technology to boost throughput and application performance at a lower price, according to Sun officials.

UltraSparc 3 users will be able to upgrade without swapping boxes. The UltraSparc 4 is "essentially doubling the performance in place," said Clark Masters, executive vice president for enterprise systems at Sun.

HP, meanwhile, will release the PA 8800, its newest PA-RISC chip, which is the basis of its HP9000 server line. The company claims that the chip will deliver a 50% performance increase over the PA 8700 if the servers are running the same number of processors, but it will yield a 250% performance boost when upgrading an existing server to double capacity. The PA 8800 is a dual-core chip, which means that what is now a four-way processor could become an eight-way if PA 8800 processors are plugged in.

Unlike Sun, HP plans to phase out its RISC chips eventually, migrating users to the 64-bit Itanium processor it co-

developed with Intel Corp. But HP is "continuing to make some level of investment in a couple of more generations of PA processor to essentially address the needs of their installed base," said Gordon Haff, an analyst at Illuminata Inc. in Nashua, N.H. To do otherwise, he said, would risk user defections.

### Depends on the App

Rich Partridge, an analyst at D.H. Brown Associates Inc. in Port Chester, N.Y., said both HP and Sun have developed valid ways of boosting system performance. For users, "the application might well determine which approach gives the most efficient use of the hardware," he said.

Optoner is another issue. There have been rumors, some springing from competitors and others from published reports, that HP is on the verge of announcing servers based on Opteron, which has the capability of running both 32- and 64-bit applications. Stamford, Conn.-based Gartner Inc. last week published a report analyzing the implications of HP adopting the Opteron. HP isn't confirming or denying such plans.

Intel has also signaled interest in developing a 64-bit extension for its x86 line, which uses an instruction set that's different from that used by Itanium. The company may detail those plans at its developer conference next week.

Interest in Opteron is clearly growing. IBM started selling systems based on the chip last year, focusing on high-performance technical computing users. But without much fanfare, the company has also been selling it to a broader base, although the company says those users remain compute-intensive.

Agronow said Opteron has allowed him to boost performance of his Oracle Corp. applications without increasing licensing costs, which are pegged to performance. The key was getting the best performance at the lowest gigahertz rate: He found through testing that the 1.4-GHz Opteron offered performance equivalent to a 2.8-GHz Intel Xeon chip.

Agronow advised potential users to test Opteron. "That's what nailed it on the head for me," he said. "I didn't have to accept somebody's study or test case." **44608**

## Consolidation Goal Is to Cut Costs

After Vanguard Car Rental USA Inc. acquired the Alamo and National car-rental brands in October, it embarked on a plan to cut IT costs from \$145 million to \$75 million or less through systems consolidation.

CIO Tyler Best's job is to make it happen by July 15.

Alamo Rent A Car Inc. and National Car Rental were previously owned by ANC Rental Corp., but they used separate IT systems: an IBM mainframe at Alamo, and HP ProLiant Intel-based servers at National.

Tulsa, Okla.-based Vanguard wants to maintain separate brand identities while creating an IT infrastructure with just one system to manage vehicle assets, reservations and other back-end systems. The company currently lacks a single view of its assets, Best said.

"The rental car business is what I call 'glorified asset management' - making sure vehicles are in the right place at the right time," he said.

Vanguard is moving its systems to two high-end PA-RISC-based Superdome servers from

HP. Best said his technical staff has no problem with HP's strategy to phase out the PA-RISC line and migrate those users to Itanium.

Vanguard evaluated technologies from the major vendors, each of which Best said he feels has the capability to produce systems that can leapfrog the others at different points in time. Best said that when his company took a "snapshot" of what was available, he decided on Superdome because he felt it would provide the transaction power he needed, maintain standards compliance and be backed up with good service.

Vanguard is also installing the Odyssey reservation system from Perot Systems Corp.

The goal is to begin rolling the new systems into production at the start of July and to complete the work by the middle of the month. From the perspective of Vanguard's top management, Best said, the IT project is "the No. 1 project that the company has."

- Patrick Thibodeau

## Software Automates Content Tracking and Management

New tools help users comply with privacy, financial reporting rules

BY THOMAS HOFFMAN

Software vendors FileNet Corp. and IBS America Inc. have each developed Web-based systems aimed at helping users to automate content tracking and management for complying with regulations such as Sarbanes-Oxley, HIPAA and the Basel II bank capital accord.

The introduction of these so-called compliance frameworks is partly a reflection of how corporate executives are

broadening their views of regulatory compliance, said AMR Research Inc. analyst John Hagerty. Increasingly, companies are leaning toward using IT architectures that can address many requirements instead of trying to attack each one individually, he said. But Hagerty added that most potential users have yet to completely buy into the compliance framework approach. "I believe customers are starting to think that way," he said. "But I would not say that they are buying that way yet."

FileNet's Compliance Framework, which is being introduced today, is designed to help corporate managers audit and track documents.

The browser-based system uses technology from FileNet's existing Enterprise Content Management product line and includes modules that support collaboration and the management of records, forms and other types of content.

In addition, Compliance Framework includes an event-driven architecture that can quickly identify and initiate responses to material events, such as a sudden change in projected quarterly sales, according to FileNet officials. That feature could be applied toward Section 409 of the Sarbanes-Oxley Act, which requires companies to deliver timely reports to investors.

### 'Compliance' Market

"From a macro perspective, Sarbanes-Oxley is the piece that's going to drive the bulk of the attention around the

marketplace," said Chris McLaughlin, director of financial services marketing at Costa Mesa, Calif.-based FileNet. But he added that the vendor is trying to provide "a good, flexible foundation to allow customers to build in new compliance requirements" to meet other forthcoming regulations. Lexington, Mass.-based IBS America last week announced QSI Websystem for Compliance Management, which is designed to automate the process of identifying who created a document, tracking where it has been routed and capturing other information.

The document-control system offers role-based user screens and expands beyond an existing Notes-based system that can be used to monitor compliance with quality-assurance standards such as ISO 9000, IBS said.

Dana Corp. in Toledo, Ohio, has used the Notes software since 1996. The automotive parts supplier plans to roll out QSI Websystem once IBS begins shipping a version of the software for use in training employees, said Brian Sniogocki, a senior IT analyst at Dana. That release is due late next month.

Sarbanes-Oxley compliance is one of the big drivers of the plan to use QSI Websystem, Sniogocki said. "In our organization, it's imperative to have a browser-based system to simplify [document] access," he said, adding that the software could benefit internal business managers as well as suppliers and customers. **44610**

## IT, BUSINESS MIX

Troux Technologies tools monitor how well systems support business processes.

**QuickLink 44612**  
www.computerworld.com



## IBM Aims Middleware at Financial Firms

BY LUCAS MEARIAN

IBM last week announced 15 middleware bundles aimed specifically at applications in the financial services and insurance industries, such as risk and compliance management and claims processing.

The bundles are the first tangible result of IBM's December announcement that it would begin tailoring its software offerings for users in different industries [QuickLink 43213].

The financial industry packages are made up of existing IBM products and include business applications from vendors such as SAP AG and PeopleSoft Inc., IBM said.

In addition, the bundles provide market-specific functionality developed by Fidelity Information Services Inc., Fiserv Inc., Sanchez Computer Associates Inc. and other vendors.

### Scalability Needs

Walter Hatten, senior vice president and technical services manager at Hancock Bank in Gulfport, Miss., said he's using a software bundle that IBM put together for him as part of a server integration project that involves moving Windows and OS/2 applications to an IBM mainframe running SUSE Linux.

The package includes e-mail archiving software from start-up ZipLip Inc. to help the bank address Securities and Exchange Commission rules governing electronic document retention, Hatten said.

"There's just been a tremendous growth over the years," he said, noting that the bank's server farm has grown to about 500 systems. "One need we had was scalability. Being able to scale in a mainframe environment rather than a PC environment was crucial."

IBM said there won't be any pricing advantages to purchasing the bundled software compared with buying the products on an individual basis.

But Bill Bradway, an analyst at Financial Insights in Framingham, Mass., said the inte-

grated offerings should help users reduce software implementation cycles. IBM's move also "eliminates the gaps" be-

tween projects' IT and business requirements, he said.

Doug Brown, director of industry marketing for IBM's

software group, described the middleware packages as "a head start" for users.

"In the past, we would have had our salespeople talk with customers about applications, servers or security," he said.

"Now we're in a conversation with customers about people productivity, integration issues and middleware all coming together to form a foundation for the project, instead of individual product parts." **■ 44565**

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MARYFRAN JOHNSON

# Chicken Little Viruses

**W**HEN ALL WAS SAID AND DONE, did Mydoom spell doom for your company? Did the fast-spreading, widely publicized virus bring your enterprise down in a tangle of clogged e-mail systems and overwhelmed servers during the past two weeks?

Chances are it didn't do any such thing.

Though you would certainly be excused for thinking Armageddon was at hand, given the hyped-up, sky-is-falling public warnings from a handful of the antivirus and security vendors.

Mydoom was spun up in the press as everything from the harbinger of "doom to corporate in-boxes" to the "most virulent virus in history," as we reported last week ["Antivirus Software Vendors Fuel Mydoom Hype," QuickLink 44430].

One advisory from Sybari Software called it "a huge problem for organizations," without any evidence to back that up. Central Command initially warned its customers about serious e-mail congestion at companies "bombarded" with infected messages, but it later downgraded the whole event to a "nuisance." McAfee rated the virus a "high outbreak" threat to business, although the estimated 500,000 infected systems turned out to be mostly home users and small businesses.

No question, there were tens of thousands of individuals seriously inconvenienced by this latest virus to target the ever-vulnerable Windows operating system. They were no doubt kicking themselves after clicking on the e-mail attachment that launched it. But the only high-profile business victim was The SCO Group's Web site, which was temporarily shut down on Super Bowl Sunday by a denial-of-service attack connected to Mydoom. A subsequent attack on the Microsoft Web site was successfully flicked away.



MARYFRAN JOHNSON is editor in chief of *Computerworld*. You can contact her at [maryfran.johnson@computerworld.com](mailto:maryfran.johnson@computerworld.com).

In a poll on *Computerworld.com* last week, only 7% of the 379 respondents said their companies were affected at all. Another 14.5% noted some network infections, but 38% said they noticed nothing more than some server strain from the e-mail blasts, and another 38% said they just saw "more e-mail than usual."

This so-called overwhelming threat fizzled out at e-mail gateways, thanks to IT and security managers who have shored up company defenses with well-known security practices such as screening out e-mail attachments, continually updating antivirus software and monitoring internal networks for unusual traffic patterns. "We were surprised by how little it affected us," as one telecommunications service manager put it [QuickLink 44429].

Wondering if it was just my imagi-

nation that the Mydoom outbreak had been wildly overplayed, I called security expert Bruce Schneier, CTO at Counterpane Internet Security and author of *Beyond Fear: Thinking Sensibly About Security in an Uncertain World*. He agreed that the threat level of this virus was overblown. But in his colleagues' defense, he pointed out that security companies often agonize over how much alarm to raise when these outbreaks first occur. In the frantic guessing game in the early hours of a virus's appearance, some prefer to hype rather than understate the dangers.

Not so coincidentally, the hype sells more product. What better time to hawk your software than when every media outlet is shrieking warnings about the need for it?

As Schneier and many other experts have pointed out, the only real solution lies in Microsoft virus-proofing its own software, which it's obviously unable to do. In the meantime, IT needs to be able to rely on credible information from the front lines of these virus outbreaks. Security vendors that keep issuing these Chicken Little virus warnings will ultimately lose their credibility with customers, plus their reputations as reliable sources with the media.

Remember how the Chicken Little fable ended? Ask the fox. ☎ 44577



PIMM FOX

# How Super Bowl Ads Help Linux

**I**T'S ALMOST IMPOSSIBLE to know if spending \$2.3 million for a 30-second Super Bowl spot changed the world's perception of Linux or IBM. But it's clear that only a few IT companies have the resources and brand awareness to make such a campaign meaningful to a mass audience, and IBM is one of them.

IBM's strategy to plump for the mass market is aimed at three key audiences, according to Christopher Williams, a marketing strategist at Idea Engineering Inc., a Santa Barbara, Calif., marketing and advertising firm.

"In reaching the mainstream, they are reaching the IT decision-makers, the company's stakeholders and the IBM shareholders," said Williams.

With its Linux ads starring Muhammad Ali, IBM is building potential for an ingredient brand, à la Pentium (it's a name brand, even though it's just an ingredient inside a larger product), paving the way for channel advertising. In addition, it will have a platform for further Linux advertising, all while reinforcing Linux as a good business decision for you and your bosses.

"People say they make business decisions on facts, not emotion," says Williams. "But emotion does play a role in the process."

Stakeholders who benefit include customers who have adopted Linux. For shareholders, the ads bolster confidence in IBM's forward-looking business strategy, and high-tech stockholders like to see companies they own doing something cool and cutting-edge.

The ads themselves are pretty effective, considering their scope. There's no way IBM can communicate the technology or business benefits of Linux to such a wide audience, so the ads have to go for an emotionally driven declaration: "Shake up the world."

Similarly, Microsoft's Office print



PIMM FOX is a freelance writer in Santa Barbara, Calif. Contact him at [pimmfox@pachell.net](mailto:pimmfox@pachell.net).



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\*This session is intended for IT vendors; no non-IDC analysts permitted in this special session.

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### Agenda Snapshot\*

\*Subject to change

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#### Monday, April 5

(Pre-Conference Activity and Tutorial Sessions)

9:30am-11:30am Industry Primer, Career Development and Skills Development Tracks  
1:00pm-5:30pm SNIA Tutorial Sessions  
Noon-5:00pm Golf Outing at the Wildfire Golf Club, Fald Course  
7:00pm-9:00pm Welcome Reception

#### Tuesday, April 6

(General Conference - Day One)

7:15am-8:15am Continental Breakfast  
8:15am-9:15am Opening Remarks and Visionary Presentation  
9:15am-12:15pm General Sessions  
12:15pm-1:30pm Networking Luncheon  
1:30pm-3:30pm General Sessions  
4:00pm-5:30pm Technical, Technical/Business and Business Tracks  
5:30pm-9:30pm Expo and Buffet Dinner, Interoperability and Solutions Demo

#### Wednesday, April 7

(General Conference - Day Two)

7:30am-10:30am IDC Breakfast Briefing  
8:15pm-Noon General Sessions  
Noon-1:30pm Expo and Buffet Lunch  
Noon-7:15pm Interoperability & Solutions Demo  
1:35pm-3:35pm General Sessions  
3:45pm-5:15pm Technical, Technical/Business, Business and SNIA Tracks  
5:15pm-7:15pm Expo  
7:30pm-9:00pm Gala Evening

#### Thursday, April 8

(Tutorial and Breakfast Sessions)

7:30am-8:30am Continental Breakfast  
8:30am-11:45am Technical, Technical/Business, Business and SNIA Tracks  
11:45am Conference Concludes

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- ☐ Other Corporate/Business Manager
- ☐ Corporate/Business Staff
- ☐ Consultant (Internal) or Other
- ☐ Sales/Marketing/Product Staff
- ☐ Engineering Staff
- ☐ Press

#### The one item that best describes your involvement in the IT purchase process:

- ☐ Authorize the purchase
- ☐ Approve the budget
- ☐ Initiate the purchase
- ☐ Evaluate/recommend products, brands, vendors
- ☐ Identify/establish the need to purchase

#### Employees in your entire Company:

- ☐ Over 10,000
- ☐ 5,000 - 9,999
- ☐ 1,000 - 4,999
- ☐ 500 - 999
- ☐ 100 - 499
- ☐ Under 100

#### What is the estimated annual revenue of your entire organization?:

- ☐ Over \$10 Billion
- ☐ \$1 Billion - \$9.9 Billion
- ☐ \$500 Million - \$999 Million
- ☐ \$100 Million - \$499 Million
- ☐ Under \$100 Million

#### Your organization's annual IT/IS budget for all IT/IS products:

- ☐ Over \$1 Billion
- ☐ \$500 Million - \$999 Million
- ☐ \$100 Million - \$499 Million
- ☐ \$10 Million - \$99 Million
- ☐ \$1 Million - \$9.9 Million
- ☐ Under \$1 Million

#### Annual company IT budget (Storage products and services):

- ☐ Over \$1 Billion
- ☐ \$500 Million - \$999 Million
- ☐ \$100 Million - \$499 Million
- ☐ \$10 Million - \$99 Million
- ☐ \$1 Million - \$9.9 Million
- ☐ Under \$1 Million

#### Your personal IT spending authority (All IT products and services):

- ☐ Over \$1 Billion
- ☐ \$500 Million - \$999 Million
- ☐ \$100 Million - \$499 Million
- ☐ \$10 Million - \$99 Million
- ☐ \$1 Million - \$9.9 Million
- ☐ Under \$1 Million

#### Your personal IT spending authority (Storage products and services):

- ☐ Over \$1 Billion
- ☐ \$500 Million - \$999 Million
- ☐ \$100 Million - \$499 Million
- ☐ \$10 Million - \$99 Million
- ☐ \$1 Million - \$9.9 Million
- ☐ Under \$1 Million

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- 2) He or she may transfer this registration to the Storage Networking World Fall 2004 conference.
- 3) The registration fee will be refunded, less a \$250 service charge (if written notice is received by March 19, 2004).

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### SECTION B - FOR IT VENDORS ONLY

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- ☐ Industry Consultant/Storage Solution Integrator
- ☐ Manufacturing (IT)
- ☐ Computer Retailer/Dealer/Wholesaler
- ☐ Software Development (Storage)
- ☐ Other Computer Related (Non-Storage)

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- ☐ CEO/COO/Chairman/President
- ☐ CFO/Controller/Treasurer
- ☐ VP/CAO/Director
- ☐ Sales/Marketing/Product Staff
- ☐ CIO/CTO/Other IS/IT Manager
- ☐ Engineering Staff
- ☐ Press

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and TV campaign not only aims at IT decision-makers, but also leapfrogs them to get at the end user, creating a sense of goodwill that could pay off when it's time for the buying decision. "It helps the Microsoft salespeople," said Williams.

But not every company is an IBM or a Microsoft. Such behemoths can take advantage of long-term market shifts and calculate the ROI of Super Bowl spending, but other IT vendors that want successful ad and marketing campaigns have to get realistic. "They need to think about the costs of advertising and marketing and whether it is going to get their business where it needs to go," says Williams.

Ultimately, that means IT vendors need to reach you with their messages, whether in the pages of *Computerworld* or its competitors, or during the Super Bowl. So the next time you're wondering why Computer Associates would spend a fortune to advertise during the football playoffs, remind yourself that it's because you're sitting there watching. **44474**

DAN GILLMOR

## Paperless E-voting Is A Threat

**I**N THE electronic-voting scandal that threatens one of our most fundamental duties in a democracy — voting — there's a small amount of good news but plenty of bad news. Which is why I'm going to ask IT people to do something that may seem, at first glance, overly political.

In reality, this isn't about politics. It's about the first duty of a citizen: voting. IT people have a unique chance to help save the franchise from some know-nothing bureaucracies and greedy corporations that are threatening the foundations of democracy.

The issue is bubbling up over two basic technologies. The first is the use of touch-screen computers — devices that always have bugs and can be hacked — with no paper trail. This is, in a word, nuts.

Imagine if banks refused to give paper receipts for ATM transactions, or if merchants didn't print receipts for credit card purchases. The use of ATMs and credit cards would plunge,

not because we'd believe our financial institutions were ripping us off, but because we'd have no way of proving that they weren't.

Yet jurisdictions across the U.S. are installing such machines for voting — including, I'm embarrassed to say, the county in the heart of Silicon Valley, where officials have basically laughed off warnings that this kind of system is dangerous.

A few state officials are beginning to wake up. California will require a paper trail by 2006, but other jurisdictions prefer just to do what the vendors tell them, and that's an abdication of public responsibility.

All this is bad enough. But now the federal government is moving forward with a scheme to have expatriates and members of the military vote over the Internet using Windows computers from places such as Internet cafes.



DAN GILLMOR is technology columnist at the *San Jose Mercury News*. Contact him at [dgillmor@mercury.com](mailto:dgillmor@mercury.com).

The average IT person, having read that sentence, is surely shaking his head in disbelief at the government's folly. [It was learned on Thursday that this plan has been put on hold — Ed.]

Four members of a team looking into the Internet voting idea became so alarmed at the prospect that they jumped the scheduling gun and issued an early report of their own. They are widely ac-

knowledgeable as experts, and their report was scathing [QuickLink 44255].

Read the report at [www.servesecurityreport.org](http://www.servesecurityreport.org), and then do something to help save our democracy from people who endanger it so cavalierly. Part of your job as an IT person is to recognize the inherent flaws in people and machines, that make information technology so annoying and interesting. You know that systems have problems for

human and technical reasons, and a big part of your job is to ensure that when — not if — you have problems, you can recover. So you make sure there are backups and true redundancy. You work hard to prevent malfeasance from within the organization or from outside.

The voting machine companies and Internet voting advocates have done an abysmal job with security. We don't have to believe someone will steal an election — though people will surely try — to worry that simple bugs will create wrong results.

Please call your local voting officials and member of Congress. Ask your CIO or CEO to raise hell.

You have credibility. If you don't use it, we could lose something precious. You can make a difference. I beg you to try. **44473**

### WANT OUR OPINION?

More columnists and links to archives of previous columns are on our Web site: [www.computerworld.com/columns](http://www.computerworld.com/columns)

## READERS' LETTERS

### Sears CEO Blasted For Offshoring Quip

Editor's note: Our story on Sears CEO Alan Lacy [QuickLink 44157] was posted on Friday, Jan. 16. In it, Lacy praised offshoring and said that "there are four or five times as many smarter or as smart or have more drive." On Monday, Jan. 19, Sears issued an apology and said it has no plans specifically related to offshoring. We added an editor's note to our story, but before we could do so, we were inundated with outraged letters. Some samples:

**I GOT NEWS** for Lacy: Those "smart, driven" people in China and India aren't shopping at Sears. The employees he fires won't be shopping at Sears either. Lacy is on a fool's errand to improve his profitability next quarter. You don't have profits if you don't have customers. **Mark Edwards**  
Chubbuck, Idaho

**I HAVE BEEN** in IT for over 37 years, and I don't recall a more in-

sulting and demeaning comment than the one from Lacy. It's the smart and driven people in the U.S. who have made it the leading technology country on the planet.

**Don Greb**  
Pittsburgh

**MIGHT I POINT OUT** that none of the people in China and India are Lacy's customers? Might I also point out that I consider myself "smart" and possessing "drive" and that I am no longer one of his customers either?

**Chris Herzog**  
Software Technologies Group Inc., Westchester, Ill.

### It's for the, er, Moths

**I FOUND** your cartoon on "Future Outsourcing Opportunities" humorous, especially the proposal for the bald eagle [Opinion, Jan. 19]. The problem with that solution, though, is that there are no hummingbirds in Europe. They are native to the Americas. Perhaps a European bunting would do the trick. **Michael Smith**  
Senior database analyst,  
State of Maine, Augusta

Editor's note: We were actually thinking of the European hummingbird hawkmoth. Ad-

mitedly, it's not a bird, but somehow that seemed funny to us at the time.

### All You Need Is Cash

**I BELIEVE** it was Archimedes who said something like, "Give me a place to stand and a big enough check and I can move the world!" ["Merging Mainframes," QuickLink 43556]

**C. Wayne Hardeman**  
Memphis

### Don't Let Data Fall Into Wrong Hands

**IT MAY** interest you to know that several decisions have been made recently that acknowledge the need for the persistent protection of data, in motion and at rest ["Data Security Breaches Reveal Encryption Need," QuickLink 43743].

The Defense Information Systems Agency has selected ANSI standards X9.69 and X9.73 for the worldwide deployment of the Defense Collaborative Tool Suite. The Office of the Assistant Secretary of Defense for Homeland Defense has selected the same technology for the dissemination of information throughout the Homeland Defense Organization. Sandia National Labo-

ratories has also been working with the same technical approach, called constructive key management, to provide role-based access control to information at the object level, using content descriptors as triggers for the cryptographic process. The National Guard has contracted for the use of the CKM technology for the controlled, appropriate access to information on its Web portal.

This affords a mechanism to follow the data-centric approach necessary to achieve the objective of "only handling information once," a concept known as OHIO, with the proper people seeing that set or subset of information consistent with their respective role.

**Jay Wack**  
CEO, Tecsec Inc., Vienna, Va.,  
[jayw@tecsec.com](mailto:jayw@tecsec.com)

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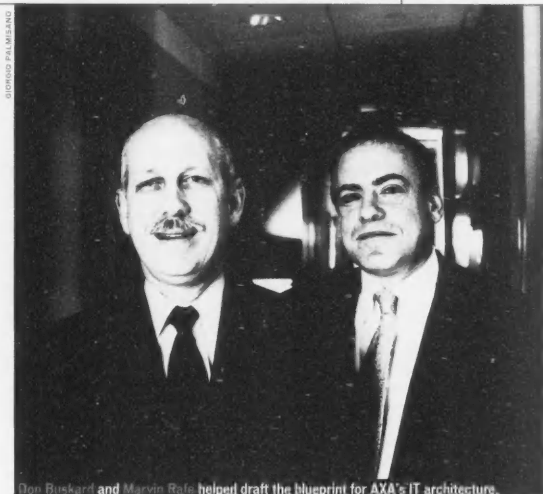


**FUTURE WATCH**  
**Rushing Toward Chaos**  
 Technology futurist Chris Meyer says IT is maturing. His advice: Outsource commodity IT, embrace the new sciences, and live on the edge of chaos. **Page 32**

**SECURITY MANAGER'S JOURNAL**  
**Postmerger Audit Quashes Trust Idea**  
 Mathias Thurman turns his attention away from Sarbanes-Oxley compliance to audit a newly acquired company for security holes — and finds that it's inadequately protected. **Page 34**



**OPINION**  
**Sun Refuses to Be Eclipsed**  
 Sun's anxious response to the Eclipse Foundation's new independence can be traced to competing user-interface tools, says Nicholas Petreley. **Page 36**



Don Buskard and Marvin Rafe helped draft the blueprint for AXA's IT architecture.

## BUILDING AN IT ARCHITECTURE FOR THE LONG TERM

**S**TICKING TO A VISION has its rewards. For AXA Financial Services LLC, those rewards add up to about \$55 million, which is what IT executives figure they've saved by adhering to a blueprint for the services-based computing architecture the company first laid out in 1990.

Over the past 13 years, the technologies have changed, but the central vision of a scalable, future-proof IT architecture based on reusing a core set of software-based services has stayed intact. The payoff has come from the ability to quickly and cost-efficiently develop, deploy and manage new applications across myriad customer channels, which the \$480 billion insurer says gives it an edge in an industry better known for its IT conservatism.

The business driver for the architectural blueprint is the same today as it was more than a decade ago, says AXA Chief Technology Officer Don Buskard, one of the drafters of the blueprint. "Anything we do and have to redo is a negative-ROI project because we're just duplicating something we already did and spending money to do it without adding much value," he says.

### Common Services

The three key reusable services the AXA IT architecture provides to all applications are common data access, data translation and security. These were initially developed by internal software developers who created proprietary code. Over time, however, as new technologies have become avail-

### FIELD REPORT

■ **Objective:** Minimize development costs and ensure quality by designing an IT architecture based on a core set of reusable services.

■ **Challenges:** Developing the services internally. Later, as AXA phased out proprietary code, the issue became choosing the right commercial products to replace its homegrown programs.

■ **Payoff:** The ability to quickly and cost-efficiently develop, deploy and manage new applications across customer channels has saved the company some \$55 million in development costs.

■ **Advice:** Have a blueprint of your IT architecture and stick to it. "It's a management issue," says AXA CIO Bill Levine. "You don't let developers go around it."

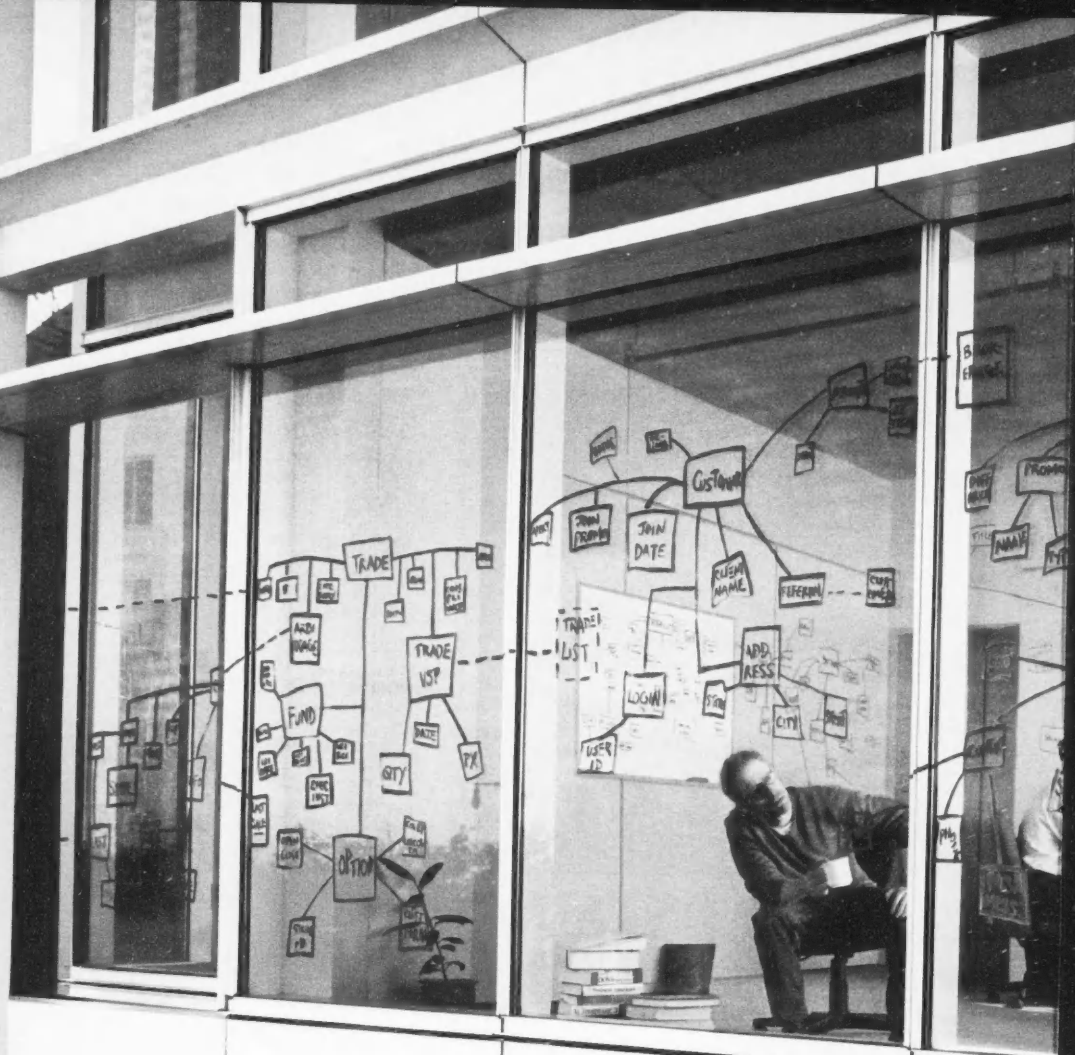
able from commercial IT vendors, AXA has adopted a strategy of swapping out homegrown programs for off-the-shelf software. But the company remains true to its original IT blueprint for reusable services.

The benefits of migrating to off-the-shelf products include greater flexibility and lower software maintenance costs, says Marvin Rafe, group director and chief architect. Rafe has been with New York-based AXA for 14 years and, like Buskard, worked on the original architecture plan. "Over time, the services requirements really haven't changed that much, but the technology underneath the services has changed," Rafe says. "We've had to change the technology underneath three or four times."

*Continued on page 26.*

**AXA FINANCIAL'S BLUEPRINT FOR SOFTWARE REUSE SO FAR HAS YIELDED \$55 MILLION IN SAVINGS. BY JULIA KING**

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Continued from page 23

AXA started with mainframe technology, then moved to client/server and is now Web-based. Originally, AXA used IBM's SNA to provide communications and common data access to front-end systems directly from the mainframe. In the second phase, it eliminated direct connections between workstations and the mainframe. It also switched from IBM's OS/2 operating system to Windows on its servers and front-end PCs. In the third phase, object-oriented interfaces based on CORBA and TCP/IP technology for communications were key.

Most recently, AXA brought in Microsoft Metadirectory Services to synchronize all of its other directories and migrated from CORBA to J2EE (see timeline below).

AXA IT executives say that in each transition, the mainframe legacy transactions, customer data and agent data, which together represent the biggest investment, have been carried forward. "This services architecture allows us to retain and continue to leverage that investment while the underlying technology over which we really have no control continues to change," Rafe says.

For example, Rafe notes that the need for a service to aggregate customer data across multiple accounts residing on one or more of AXA's eight major computer systems remains the same, regardless of whether an agent is requesting it via a voice-response unit or the Web.

AXA's eight major systems include those that it uses for retail and wholesale distribution, sales applications, life annuity services, broker/dealer systems, applications used by AXA's financial services planning group and client-facing applications for customer inquiries and self-service via the Web.

"What we've done is separate the business intelligence and intellectual capital, which is the customer data, agent data and the ability to perform the transaction from the technology," says Rafe. That way, AXA can take advantage of new and better technologies as they emerge, without interrupting the delivery of key services, he notes.

A major infrastructure upgrade completed in 2003 from AXA's legacy CORBA environment to IBM's WebSphere MQ message-based technology serves as a prime example. AXA wanted a single software product to deliver a common way for applications to access data in back-end systems, Buskard explains. This approach even better streamlines the integration of new applications. It also enables new services, such as allowing users to perform a full complement of financial inquiries and transactions via the Web.

AXA chose WebSphere MQ, Buskard says, because it was already using IBM operating system software and was familiar with the product's predecessor, the MQSeries middleware.

The implementation wasn't a slam-dunk operation, however. IBM's initial WebSphere MQ software proved to be difficult for AXA developers to use, which slowed AXA's time to market with new services, says Buskard.

"Although [WebSphere] was a very robust transport that connected all of our systems, there was a fairly complex syntax. There was a large set of transactions with lots of parameters and lots of error messages to contend with," explains Rafe.

So AXA brought in Candle Corp.'s PathWAI application infrastructure management software, which Rafe describes as a software "wrapper" that masks the complexity of WebSphere. The Candle software manages the mes-

saging services that need to take place among different AXA applications outside of the applications themselves.

An advantage of this approach is that "it's a simpler form of managing the underlying plumbing so that developers aren't forced to become familiar with it," says Dave Caddis, vice president of application infrastructure management at El Segundo, Calif.-based Candle. "It also makes it much easier for the development community to deliver a faster return on investment."

## Integrating Siebel

AXA's new Web portal is another example of how the company was able to quickly incorporate existing services into a new application. The portal, which serves the sales staff, integrates AXA's e-business services with Siebel Systems Inc.'s CRM software and AXA's services-based architecture. The system combines Siebel's sales, marketing, call center and analytical products with Sun Microsystems Inc.'s Sun ONE Portal Server. The project took a year to complete and is now being piloted by about 100 beta testers.

"The value to our sales advisers has been huge, because they have to have a current picture of customer relationships," says Dave Wollin, AXA's group director of e-business. "Advisers now log into the portal in excess of 40 times a month. When they started, it was 15 or 16 times a month, but now it's multiple times a day."

Rafe says that one of the primary reasons AXA was able to complete such a huge project in a comparatively short period of time was its ability to take architecture-based services such as the ability to aggregate customer data across multiple accounts and plug that capability into the Siebel system, rather than create it again from scratch each

time a new application is added.

"A lot of the same services [Wollin] is using on the Internet for e-business are services we built 13 years ago for the PC," Rafe says. "The services layer hasn't changed that much, because what the customer wants to see hasn't changed. It's the technology that connects in over time that changes, and because we've separated the services level from the technology, we have a lot of flexibility to make those changes."

Developing and then actually adhering to an IT architecture centered on software reuse is something that few IT organizations have been able to accomplish, especially over a period of more than 10 years, says John Rymer, an analyst at Forrester Research Inc.

"It's pretty unusual," Rymer says. "It's also highly cost-effective, given the soft savings associated with software reuse, he adds. "You don't have to retrain developers on new interfaces, and oftentimes you see higher quality. If you've developed services over 10 years, it's pretty stable code, so you can improve your performance over the years," Rymer notes.

The bottom line is that AXA has saved a lot of money, says CIO Bill Levine. "We spent about \$35 million on our architecture, and we estimate it would have cost us about \$90 million to do the same thing had we not had an architecture in place," Levine says.

Reuse also guarantees efficiency and minimizes risk, he says. "In terms of our ability to execute, we're not fragmented," Levine says. "We can move developers from project to project, and they're not only familiar with the tools used for development, but with the services coming out of it. The only real variable we have most of the time are the new interfaces and the application itself. We're not always dealing with unproven services." **44058**

## HOW AXA'S IT ARCHITECTURE EVOLVED

### RELEASE 1 • 1989-92

■ **Architectural focus/objective:** Connectivity and common data access; middleware to front-end mainframe.

■ **Key technologies:** CICS, SNA/APPC LU 6.2 and Esasel Corp.'s CASE tool. Front-end PCs run OS/2. Workstations communicate directly with the mainframe.

■ **Number of applications benefiting from code reuse:** 11

■ **Estimated cost savings:** \$10 million

### RELEASE 2 • 1993-96

■ **Architectural focus/objective:** Client/server. Focus on data transport, messaging, security, and common customer and agent files and directories.

■ **Key technologies:** Windows replaces OS/2. TCP/IP used for data communications between workstations and servers. Server-to-mainframe communications remain on IBM's SNA.

AXA develops an enterprise customer file, an enterprise directory and an agent file. It also introduces a proprietary application security system for authentication and authorization.

■ **Number of applications benefiting from code reuse:** Five

■ **Estimated cost savings:** \$8 million

### RELEASE 3 • 1997-2001

■ **Architectural focus/objective:** Web and open systems.

■ **Key technologies:** CORBA, Iona Technologies Ltd.'s Orbix product. Web application server software from Sun Microsystems' NetDynamics. Also deploys Solaris and Sun ONE Directory Server, Sun ONE Portal Server and Sun WebServer. The PC browser software is Netscape. IBM's MQSeries middleware (subsequently rebranded WebSphere MQ); Candle's Roma software (now PathWAI).

■ **Number of applications benefiting from code reuse:** 14

■ **Estimated cost savings:** \$37 million

### RELEASE 4 • 2002-Present

■ **Architectural focus/objective:** Deploying vendor-provided, standards-based products.

■ **Key technologies:** J2EE, IBM's WebSphere MQ, Microsoft Metadirectory Services, BEA's WebLogic Server, Oblix Inc.'s NetPoint software for centralized security, Siebel's CRM applications. Also IBM's DB2-based Client Information Integration Solution to replace its proprietary customer file system.

■ **Number of applications benefiting from code reuse:** Five

■ **Estimated cost savings:** To be determined

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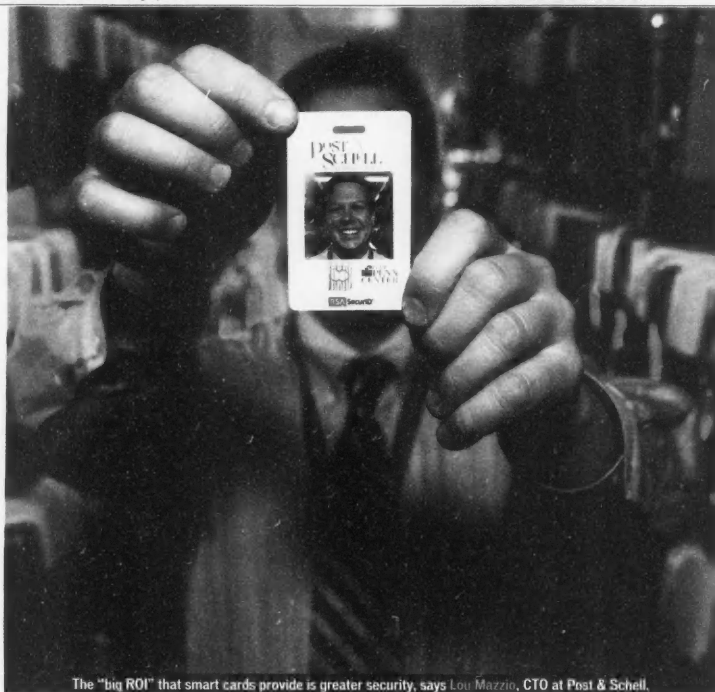
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\*Source: IDC, Worldwide Mobile Middleware Competitive Analysis, 2003.  
Forecast for 2003-2007, IDC #23586, Jul 2003.



The "big ROI" that smart cards provide is greater security, says Lou Mazzio, CTO at Post & Schell.

# LOW DRAW FOR SMART CARDS

Cost and interoperability problems are slowing companies' adoption of smart card technology. **BY JAIKUMAR VIJAYAN**

**E**MPLOYEES AT Post & Schell PC, a law firm in Philadelphia, need smart cards to do just about everything, from entering company facilities and using elevators to securing two-factor authentication so they can access IT applications.

The firm recently started using smart cards as part of a move to bolster network and physical defenses when it relocated to a new facility.

"The big ROI we are providing our firm, our attorneys and our clients is greater security," says Lou Mazzio, Post & Schell's chief technology officer.

Like Mazzio, other users who have deployed smart cards say that the technology helps improve security, reduce password administration and support costs, and enable single sign-on to multiple applications.

But the upfront cost of a smart card infrastructure, as well as interoperability problems and the hassles involved in integrating the technology with existing infrastructures, has resulted in far slower deployment of the technology in corporate America than many had once predicted.

"The corporate market has been a tough nut to crack," says Thierry Burgess, executive vice president of sales at Oberthur Card Systems USA, the U.S. arm of one of the largest smart card vendors in the world.

Like public-key infrastructure (PKI), smart card technology is taking many years to gain widespread acceptance in private commercial enterprises, says Trent Henry, an analyst at Burton Group in Midvale, Utah. But expect to see greater adoption over the next few years, he adds.

Smart cards allow companies to store passwords, personal identification numbers and other digital credentials that let users log onto corporate networks or access facilities such as buildings and parking lots.

In Post & Schell's case, user authentication information is stored on smart cards for network access using RSA Security Inc.'s Smart Badging system. Bedford, Mass.-based RSA is also helping the firm embed user credential information on the same cards. That information is needed for physical access to Post & Schell facilities.

## More Features, More Savings

The two-factor authentication enabled by such cards allows for better network and physical security, says Charles Fletcher, CIO and provost at Delaware State University in Dover. Smart cards can also help reduce some of the traditional costs associated with password resets and management because the passwords are embedded directly on the cards, he says.

Generally, the cost benefits increase as more access functions are integrated on a card, Fletcher says.

Students and employees at the university have been using smart cards since last summer to log into Windows and Web-based applications, access dorm rooms and library facilities, and pay for meals in the cafeteria. In the future, the university plans to use the smart card infrastructure, which is based on HiPath Security Card technology and the HiPath MetaDirectory software suite from Siemens AG in Munich, to enable access to e-commerce and payment applications, Fletcher says.

## DEPLOYMENT ADVICE

Burton Group recently surveyed some of its clients that have deployed smart cards and compiled the following list of lessons learned.

- Developing proper processes is often harder than deploying the actual technology. Take into account political challenges and the need for executive sponsorship.
- Planning ahead is crucial.
- Be prepared to customize the smart card technology you choose.
- Stick to standards.
- Avoid proprietary implementations.

From a physical standpoint, the embedded read/write intelligence in such cards allows access to be quickly granted, revoked or modified from a central location, says Neville Pattison, director of smart card technologies at Paris-based Axalto, which was recently spun off as an independent company from oil field services giant Schlumberger Ltd.

Schlumberger is rolling out Axalto's DextaBadge smart card technology to its 80,000 employees worldwide. The cards are being used to digitally encrypt e-mail and sign electronic documents. Schlumberger is also using the cards to enable log-in to Windows applications and virtual private network services, Pattison says.

"The smart card is the little agent of trust in the hands of an employee," Pattison says. "On behalf of the issuer, it performs security-related operations and various other operations knowing the right cardholder is present."

However, several factors have contributed to the slow adoption of smart cards in corporations, Burton Group's Henry says.

Cost is a big one. The price tag for deploying the hardware, readers, middleware and software for a smart card system can be daunting. Midsize companies can easily expect to spend \$200,000 to \$300,000 to get started, and even pilots cost about \$70,000, says Chris Meaney, director of secure networks at Siemens. On average, companies can expect to pay \$20 to \$30 per user, excluding the cost of the readers, card management and PKI software, according to Burton Group.

As a result, smart cards are unlikely to make a whole lot of sense for companies with fewer than 2,000 employees, Meaney says.

Companies also need to have a PKI in place to use the encryption, electronic signing and nonrepudiation functions that are enabled by smart cards, says Henry. "There definitely is some serious cost-benefit analysis that needs to be done before companies start deploying smart cards," he says.

Technology interoperability is another big challenge, says Mary Dixon, director of the U.S. Department of Defense's Common Access Card program office, which is rolling out more than 4 million smart cards to Pentagon personnel (see box, right).

Smart card infrastructures require a high degree of

interoperability and synchronization among the cards, readers, access-control panels and identity directories, and that interoperability is still not fully there, Dixon says. The cards themselves come with varying memory sizes, processing capacities, scalability, operational proximity ranges and application support. And applications that are enabled to work with one vendor's smart card technologies may not always seamlessly work with another vendor's products.

Because of the size and scope of its project, the DOD decided to contract out its work to multiple technology vendors to minimize the risk of technology lock-in, Dixon says. But to ensure that smart cards, middleware and readers from multiple vendors integrated seamlessly, the DOD worked with the National Institute of Standards and Technology to develop an interoperability specification that participating vendors had to adhere to.

However, because of integration issues, "if I was going to do a small implementation of a few thousand cards, I would be inclined to go with a single vendor's card and use it as much as I could," Dixon says.

## Integration Challenges

Until recently, users have also needed to do considerable integration work to tie smart card management systems into PKI networks, says Oberthur Card's Burgess.

Companies also need to have a centralized directory infrastructure in place, says Meaney. And they need to have a good process for communicating changes in the core human resources database, which is often the source of identity information, he says. That information is needed to provision, revoke or modify cards when employees are hired, move to new departments or leave the company.

The recent trend toward so-called smart tokens that can plug into standard Universal Serial Bus ports on computers could also divert attention away from traditional smart cards. Herndon, Va.-based Exostar LLC, an online trading exchange created by companies such as The Boeing Co., Raytheon Co. and Lockheed Martin Corp., is using smart tokens from Aladdin Knowledge Systems Ltd. in Chicago. The tokens allow Exostar to store digital certificates and automatically fill in log-on fields, passwords and Web site shortcuts, as well as encrypt and decrypt files and e-mails, without requiring an investment in a special card reader, says Jeff Nigriny, Exostar's chief security officer.

But there are some factors coming together that could finally begin to spur broader corporate adoption, says Herb Mehlhorn, senior product manager for RSA's smart card business.

New-generation smart card technologies based on a set of Java standards promise more interoperability and functionality, Mehlhorn says.

Massive smart card deployments by federal agencies such as the Defense Department and the Department of Transportation have begun pushing technology costs lower, he says. And companies are coming under increasing regulatory and legal pressure to demonstrate due diligence when it comes to user authentication.

The embedded PKI certificate server support in Microsoft Corp.'s Windows Server 2003 could also begin to make it easier for users to snap smart cards into PKI networks, Henry says.

"I don't think there's anyone that refutes the likelihood that smart cards will be in every wallet 10 years from now," says Pete Lindstrom, an analyst at Spire Security LLC in Malvern, Pa. "It's how we get there that's going to be interesting." **C 44310**

## DEFENSE LEADS THE WAY

**THE DEFENSE DEPARTMENT's** Common Access Card (CAC) program, through which smart cards will be issued to more than 4 million military personnel, civilian DOD employees and contractors, is the largest smart card project currently under way.

When fully deployed next month, the 32KB chip-based cards that incorporate Java technology will serve as military ID cards and provide access to physical facilities and government networks, says Mary Dixon, director of the CAC program office. Apart from the standard credential information, each ID card has up to 7KB of space reserved for use by military services as needed, for functions such as tracking troop deployment readiness or paying for food at the commissary.

The card infrastructure is based on technology from Axalto and Oberthur Card Systems, and has been a crucial enabler of the Pentagon's e-business initiatives, including

the use of digital signatures for electronic documents, Dixon says.

So far, about 3.5 million cards have been deployed at a rate of more than 10,000 cards a day from 900 centers worldwide, Dixon says.

The DOD effort has been a big catalyst for the smart card industry, says Randy Vanderhoof, executive director of the Smart Card Alliance, a nonprofit industry association in Princeton, N.J.

"There has been a significant increase in the shipment of smart cards to corporate and government programs in the last three years," Vanderhoof says. "The most visible has been the DOD effort." But in the future, expect to see similar initiatives from other agencies, including the Department of Homeland Security and the Transportation Security Agency, which is expected to roll out 10 million cards, Vanderhoof says.

—Jaikumar Vijayan

So far, about  
**3.5**  
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# RUSHING TOWARD CHAOS

Futurist says IT is in for bumpy ride on the way to the 'adaptive enterprise.' By Gary H. Anthes



Q&A

From 1995 through 2002, Christopher Meyer was director of the Center for Business Innovation, a think tank within Cap Gemini Ernst & Young. While there, he founded Bios Group Inc., a Santa Fe, N.M.-based venture that invests in business

applications of complexity theory. In 2002, he founded Nerve in Lexington, Mass., where he's now applying adaptive systems theory to understand how businesses can evolve autonomously in response to economic volatility. He's also researching the coming "molecular economy," to be driven by the rapidly developing fields of nanotechnology, biotechnology and materials science.

With Stan Davis, he has co-authored three books, most recently *It's Alive* (Crown Business, 2003). Computerworld's Gary H. Anthes recently asked Meyer about some of the concepts in the book, which looks 10 years into the future.

**What does the maturing of IT plus the rise of the so-called adaptive enterprise imply for IT people?** Aim as high in the value chain as you can. If IT is what you love, look at the world of autonomous agents, of pattern recognition, of globally distributed decision systems, where the next killer apps can come from. The economic value of the day-to-day IT jobs is going to decline and perhaps go overseas.

**You cite companies such as John Deere, IBM**

and General Electric as using genetic algorithms (GA), in which rules in software evolve spontaneously, breeding better and better solutions. How important is that concept? It's the leading end of a wedge. GAs are one of a number of techniques under the category of nondeterministic programming, where the objective is not to create code that never has a bug and gives you the same answer every time, but to solve problems that, in some cases, may be impossible for us to understand because they are nonlinear and nondeterministic.

In some cases, if you run it twice, you won't get the same answer, but you might get equally good answers. The application of GAs is a pretty scarce skill.

## FUTURE WATCH

**What about agent-based simulations, another nondeterministic computing technique that your**

book says is used by Southwest Airlines, the U.S. Marines, Walt Disney and a few other organizations? It's so far used by a handful of people in very customized ways. It will have a profound impact on the social sciences. It's the right way to model systems of people, of consumer behavior, for example. The technique is pioneering today, but it's good enough that it's worth investigating, because it's a small expenditure for something that may yield new insights.

**Will we see these techniques appear in commercial supply chain packages?** Yes, I know that [i2 Technologies and SAP] have been working on some of these ideas. One of the major competitive battle fronts will be making these

packages more adaptive to real-time operations conditions.

In supply chains, things take a number of days to move from one place to another, but during that time, it may be that the highest and best use of something has changed, and so its destination should change. So, how do you build into your management of resources this real-time, sense-and-respond capability? It's real-time supply chain optimization, as opposed to optimization within a previously fixed set of rules.

**You mention real-time pricing as one specific application of these nondeterministic techniques.** Yes, the ability to say, for example, "This car ought to be priced over sticker and this model ought to be deeply discounted based on what's on the lot" is an example of a capability that's going to go into the big packages. In order to support that kind of thing, IT people will have to look at information as a data stream about the world, not just as transactions.

**You say that much of this data stream will come from sensors, which will become cheap and ubiquitous as a result of the revolution in molecular sciences.** That means there's going to be a lot of data available that didn't used to be. So an IT group that's really trying to help will go to its management and say, "What information could you use to create

value?" and, "We'll think about how to get that information in real time." Customer behavior is a key one.

**What challenges does this pose for IT?** If you take [the principles of] sense and respond, and learn and adapt seriously, you're going to have to use technologies that handle vast data streams. For many organizations, that will be a new challenge.

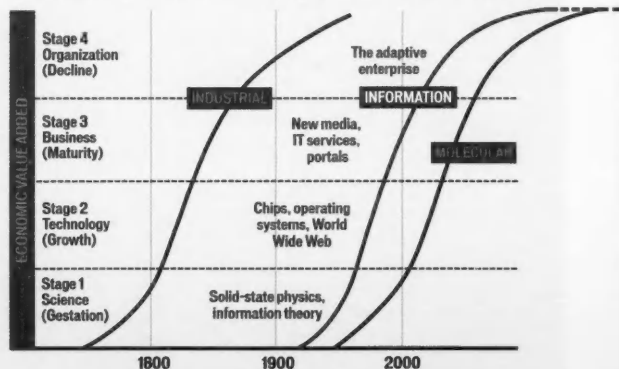
**You say companies and their IT shops should "operate at the edge of chaos." How can that be a good thing?** If you believe competitive advantage lies in the ability to sense change in the environment and respond to it faster than anyone else, and thereby keep your opponents off balance even though you feel off balance because you are operating as fast as you can, then IT can create competitive advantage by being able to go through the orient-observe-decide-act cycle faster.

**Might such rapid change jeopardize IT's core mission?** The IT group can't view its mission as tending to the existing IT infrastructure anymore, keeping it at 99.99% available and all that. Outsource the commoditized IT stuff, and be in the business of having the fastest change capability in the industry. The stuff that stays in-house will be somewhat chaotic, and it should be.

Q 44273

## THE NEXT 10 YEARS

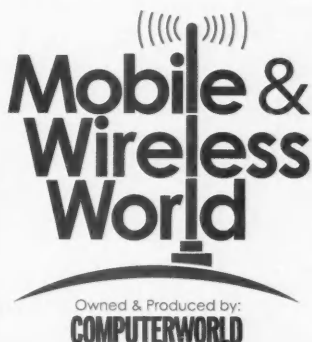
According to Meyer's *It's Alive*, economies follow predictable evolutions through four stages. The U.S. IT economy is nearing the end of its rapid-growth phase and will, over the next 10 years, be eclipsed by rapid advances in nanotechnology and biotechnology. Advanced applications of IT will center on the "adaptive enterprise," with companies evolving in ways that resemble biological systems. IT itself must become similarly adaptive and will do so by employing nascent technologies — such as genetic programming and simulation based on autonomous agents — inspired by biology.





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# Postmerger Audit Quashes Trust Idea

The barriers stay up when a security audit reveals inadequate protections within a newly acquired start-up. By Mathias Thurman

**D**URING the past few weeks, almost all of my time has been devoted to creating security standards in order to comply with the requirements of the Sarbanes-Oxley Act. That changed this week after a sudden acquisition led to a frantic, last-minute security audit.

Prior to this interruption, I had made quite a bit of progress. My standards document is now up to about 70 pages. I've tried to keep it short and sweet, but it's difficult to do that and be comprehensive. The hardest aspect of creating robust security standards is ensuring that they're meaningful. Sure, I can do research and create a document. But the resulting policy may not be applicable to my company's way of doing business or to the way it deploys a particular technology.

To ensure that my standards are relevant, I'll have to meet with each group to which each standard applies, review what the group is doing and compare that with my best practices. Then I'll have to change my standards to balance the company's security needs with what each department is doing. If I create a standard that forces a group to change how it conducts business, users simply won't comply.

But all this went on the back burner today when my company announced the acquisition. The IT security group was given just three days to complete a merger-and-acquisition due-diligence report — far short of the two to three weeks we usually have to

complete such an assessment. Luckily, the company we're acquiring has fewer than 40 employees and only one office.

When we acquire a company, we need to understand the security controls around what we're acquiring, whether it's people, a product or a customer base. We can't just assume that the company is doing business in a secure manner — especially since this one is a start-up. We also need to identify security issues quickly.

I was once in a situation where an employee of an acquired company, fearing a layoff, copied the entire customer database, compressed it and stored it on a Universal Serial Bus flash memory disk. Fortunately, he then forgot the disk in a conference room. We discovered the data only when someone decided to plug the device into his USB port to figure out who owned it. The staffer, who ironically hadn't been targeted for a layoff, was let go after we found him roaming the halls asking if anyone

had seen his USB disk.

For this acquisition, we're interested in the company's software. In this case, the critical intellectual property is source code located on a server cluster.

## Building Trust

Since I had just a few days to complete my assessment, I decided to focus on the most critical areas. I wanted to ensure that once we had established a trust relationship between our company's servers and theirs, we wouldn't be introducing any vulnerabilities into our environment. We planned to link the two company domains so that new employees could access our human resources, payroll, e-mail, shared drives and other intranet resources. Usually, if my group can identify threats or other security issues, we can mitigate those prior to setting up that trust.

I began by requesting a network diagram so I could understand the network topology. The other company has a so-called DMZ, or demilitarized zone, in which its e-mail gateway, domain name server, Web server and file transfer protocol server sit. The back-end tier includes the corporate LAN, engineering lab, and financial and human resources systems. It also has a few firewalls, a virtual private network gateway, routers, switches, and Solaris, Linux and Windows servers.

I then turned my attention to the router configurations, firewall rules database and VPN gateway configuration. I needed to know how data flowed from one network to another, any external connections with other third-party entities and who was accessing the network remotely. I created a spreadsheet in which I annotated all of the

trust relationships and network flows. Since I had little time to complete my review, I focused on the DMZ and a sampling of the corporate network configurations.

To supplement my map, I ran a discovery of the network using Nmap ([www.insecure.org](http://www.insecure.org)), a freely available port scanner. Nmap does a good job of enumerating hosts and identifying the operating system. I also ran Nessus ([www.nessus.org](http://www.nessus.org)), another free application, to assess vulnerability.

Meanwhile, I toured the facility, asked plenty of questions and noted any unlocked doors, faulty alarm systems, lack of access control and so on. Then I then sat down with the primary network and systems engineer and went through a comprehensive questionnaire. This document, assembled over the past few years, covers areas such as the policies and procedures used in conducting business.

The end result was fairly dismal. That's understandable — many start-ups focus on their products and lack the resources to properly secure their IT infrastructures. As a result of my preliminary review, we've already decided to forget about establishing a trust between organizations. We'll shut down all external access to the company's network for now and just create a point-to-point VPN tunnel between the companies. This should get us by for the next two weeks. After that, we'll move everyone into our corporate campus.

Although we'll keep the acquired company's staff and source code, we'll abandon or recycle virtually all of its network equipment and other hardware. After I finish my report, it's back to the Sarbanes-Oxley grind. ■

## WHAT DO YOU THINK?

This week's journal is written by a real security manager, "Mathias Thurman," whose name and employer have been disguised for obvious reasons. Contact him at [mathias.thurman@yahoo.com](mailto:mathias.thurman@yahoo.com), or join the discussion in our forum. [QuickLink at 1590](#)

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## SECURITY LOG

### Security Bookshelf

*Designing Network Security*, Second Edition, by Merike Kaeo; Cisco Press, 2003.

Security professionals responsible for issuing recommendations during a network design or for conducting a security audit on an existing network will benefit from this comprehensive 600-page tome. I found the information presented particularly useful during a recent router audit.

For example, Kaeo offers many sample configurations that include appropriate comments to help readers understand why a particular configuration statement is needed. He also does a good job covering current threats, incident response and policy issues.

There's one potential drawback, however: This book focuses primarily on Cisco gear, so users of other equipment brands may want to look elsewhere.

— Mathias Thurman

### All-in-One Security Appliance Debuts

WatchGuard Technologies Inc. in Seattle has launched Firebox X, a line of expandable multifunction security appliances based on Intel technology that combines firewall, VPN, application-layer security, intrusion prevention, authentication, and spam and Web filtering in a single 1U enclosure. (1U equals 1.75 in. high.)

The appliance can be expanded based on the number of users as well as by function by purchasing a software key to turn on functions prebuilt into the box. WatchGuard says it plans to add support for Secure Sockets Layer acceleration, Web services security and a Web-based user interface in a future release. The Firebox X comes in four configurations and is available now. Pricing ranges from \$1,990 to \$4,990.



**SECURITY  
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The IT security group was given just three days to complete a merger-and-acquisition due-diligence report — far short of the two to three weeks we usually have.



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## BRIEFS

Fujitsu Releases  
New Blade Server

Fujitsu Computer Systems Corp. has released the Primergy BX300 blade server. Featuring Intel Pentium M 1.6-GHz processors and up to 4GB of ECC-protected double data rate synchronous dynamic RAM, the BX300 uses a 3U-high (1U is 1.75 in.), 19-in. rack that can hold 20 server blades, said Sunnyvale, Calif.-based Fujitsu. The BX300, which supports Linux or Windows Server 2003, starts at \$6,500.

Tripwire Net Config  
Manager Upgraded

Tripwire Inc. has announced Tripwire for Network Devices 3.0, network configuration management software that's designed to manage, monitor and report changes to network devices. It can handle 100,000 devices and is capable of identifying devices with configurations different from established policies, according to Portland, Ore.-based Tripwire. Pricing for 100 nodes is \$19,900.

Emulex Announces  
Fibre Channel HBA

Emulex Corp. this week announced the Emulex LightPulse LP101 HBA. The Costa Mesa, Calif.-based vendor said the LP101 delivers Fibre Channel connectivity at about half the list price of existing Fibre Channel host bus adapters.

SMC Launches  
WLAN Antenna

SMC Networks Inc. last week introduced an antenna designed to extend the range of corporate wireless LANs operating in the 2.4-GHz band. The SMCANT-DIFP11 high-gain antenna can be hooked up to any 802.11b WLAN access point or router and extends the range in point-to-point operation by as much as nine miles, according to Irvine, Calif.-based SMC. It will be available in March for \$69.99.

NICHOLAS PETRELEY

Sun Refuses to  
Be Eclipsed

**E**CLIPSE is an enormously popular Java-based integrated development environment (IDE). IBM started work on Eclipse software in 1999, and Eclipse 1.0 premiered in October 2001. It soon developed a life of its own as a project driven by the open-source community.

Last week an IBM-led consortium officially spun off Eclipse as an independently controlled open-source project to be managed by the nonprofit Eclipse Foundation. This move prompted Sun to publish an open letter to the Eclipse membership (see [www.newsforge.com/programming/04/01/30/1746245.shtml](http://www.newsforge.com/programming/04/01/30/1746245.shtml) for a published version).

One cannot read the open letter without sensing Sun's frustration with the way Eclipse has contributed to the success of Java while simultaneously subverting some of Java's platform neutrality. Sun dances around the issue, claiming that the "sticking points" in the discussion about Sun adopting Eclipse as a standard development platform were "not so much technical in nature as they were business-related."

The company then claims that transitioning to the Eclipse platform would "inhibit development of innovative technologies" and "require a reconstruction of all of our existing tools."

Sun currently bases all of its tools on the NetBeans IDE. Like Eclipse, NetBeans is open-source and more or less community-driven. Eclipse has a larger and more active community than NetBeans, and that isn't likely to change anytime soon.



NICHOLAS PETRELEY is a consultant and author in Kansas City, Mo., and founding editor of VarLinux.org. He can be reached at [nicholas@petreley.com](mailto:nicholas@petreley.com).

All things being equal, it would therefore seem worthwhile for Sun to reconstruct all of its tools to adopt Eclipse as its foundation. All things are not equal, however. NetBeans is built around Sun's graphical interface tool kit Swing. Eclipse, on the other hand, uses the Standard Widget Toolkit (SWT) for its graphical user interface.

Here is the subtle but important difference between Swing and SWT.

Swing is designed to give Java applications a unique look and feel that's the same across all the platforms where Java is supported. Swing achieves this goal at the cost of performance and, in the eyes of some developers and users (myself included), aesthetic appeal.

SWT is, in a sense, an anti-Swing. SWT is designed to give Java applications the native look and feel of non-Java applications on any given platform. SWT does not go so far as to derail the platform neutrality of Java, however. SWT exploits the speed and usability of each native interface while insulating programmers from the differences between platforms.

Obviously, this goal is not easily attained, as is evidenced by the fact that you can't even print files from SWT applications that use the GTK (Gimp Toolkit) graphical interface.

SWT had a crucial role in the suc-

cess of Eclipse because its speed and native look and feel made Eclipse more attractive than Swing-based development tools. The problem for Sun is that SWT didn't buy into the philosophy that Java is the platform, and that the underlying operating system should be totally irrelevant. Yet Sun is hard pressed to complain because Eclipse has contributed greatly to the success of Java.

There are many reasons why I would use Eclipse over NetBeans, but SWT is the least of them. Given the speed and low cost of today's PCs, I find the performance advantage of SWT over Swing to be barely perceptible. One could argue that SWT applications are prettier than Swing applications, but as time passes, SWT seems more like a divisive duplication of effort running out of problems to solve.

SWT has a strong following, though, and that's likely to keep it alive long after it has outlived its original purpose. Can SWT co-exist with Swing in the long haul? Sun is attempting to bridge the two graphical tool kits by making it possible to embed Swing components into SWT. That's likely to elicit no more than a yawn from the Eclipse community. Even if Sun can come up with a component that is compelling enough to make Eclipse users want to adopt it, Eclipse fans are more likely to reproduce the component in SWT than use a Swing version.

The Pollyanna view of the SWT/Swing debate would be that having a choice is always a good thing. I agree, as long as the choice of SWT doesn't have a negative impact on the platform neutrality of Java. ☎ 44494

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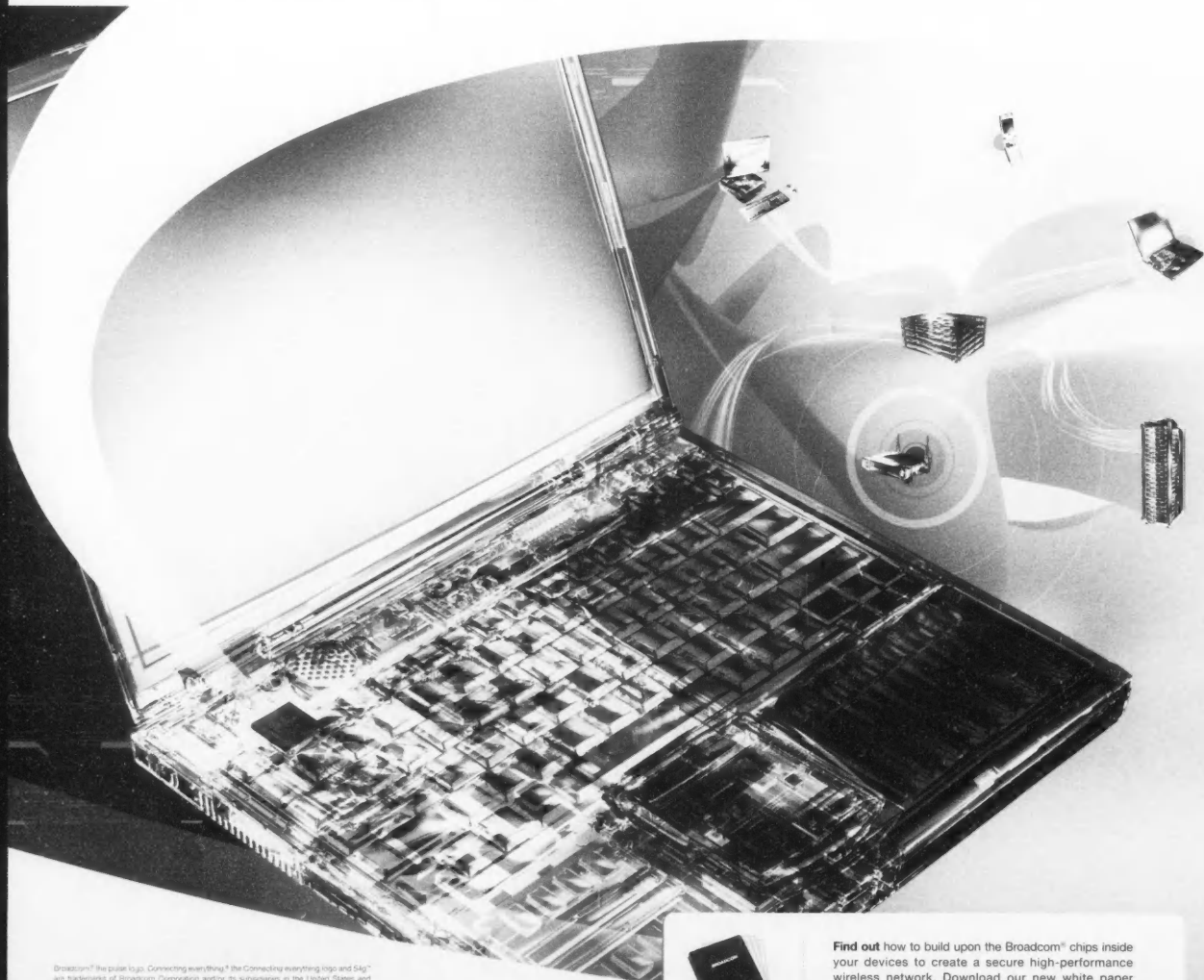
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# MANAGEMENT

02.09.04

## CAREERS

### Getting the Right Fit

CIOs need to fully investigate the company's culture, politics and executives before agreeing to take a new job, advises former CIO Doug Lewis. **Page 44**



## Q&A

### Measuring Intangible Assets

Putting a value on a company's intangible assets — including IT — is nigh impossible. But the creators of the balanced scorecard methodology say measuring intangibles' alignment with value-creating strategies is a good start. **Page 42**

## OPINION

### The Case of the Missing Metrics

When dealing with outsourcing contractors, "If you don't use the metrics you designed and negotiated, you'll get the performance you deserve," says Bart Perkins. **Page 46**



**A** HEADLINE MAY SAY that a company signed a \$320 million IT outsourcing contract, but the actual costs will likely be much higher. Behind the scenes, the client spends big bucks on evaluating vendors, managing the contract, enhancing security, traveling to offshore sites and potentially paying severance packages for laid-off employees.

And that's only part of what can inflate the dollar figure quoted in a basic contract.

"Things change over time, and that inevitably leads to some form of cost-shifting," says John Hill, CIO at Praxair Inc., a Danbury, Conn.-based manufacturer of gases. He suggests that contracts be designed to accommodate some flexibility, such as changes in labor or computer and network hardware.

Other IT managers and outsourcing consultants point out that unexpected costs can arise during any phase of the project. Anyone considering outsourcing should take a close look at these potential costs or risk miscalculating the true benefits of outsourcing.

### Vendor Selection

Many organizations overlook the costs associated with evaluating and selecting a contractor. The process typically can drag on for many months, depending on the project's complexity, and requires

time commitments from senior executives in IT, human resources, finance, legal and other departments.

"It's a very complex [market], with many service providers that have changing terms and conditions," says Shawn McCray, a partner at TPI Inc., an outsourcing advisory firm in The Woodlands, Texas.

If the potential contractors are located offshore, organizations could incur extensive travel expenses for visits to evaluate services. "A lot of times, offshore service providers have very good sales and marketing abilities, but companies need to [scrutinize potential contractors] to see what their real capabilities are," McCray says.

In some cases, organizations will need to buy studies from independent research firms — at a cost of thousands of dollars — to evaluate outsourcing vendors, says Atul Vashistha, CEO of NeoIT.com Inc., an offshore outsourcing advisory firm in San Ramon, Calif.

IT and business leaders who haven't clearly defined the goals for the outsourcing project or communicated them to the managers negotiating the deal also slow down vendor selection and the contract-signing process. "The people negotiating the contract could be focusing on the wrong things," which will result in delays in getting the contract ironed out, McCray says.

# COSTLY Surprises

Outsourcing may save less money than you think. The hidden expenses include vendor evaluation, extra security, airline tickets and severance pay. **BY BOB VIOLINO**

All told, choosing the right vendor and writing the contract costs about 3% of the total outsourcing cost, according to a 2001 study of 50 IT outsourcing deals by French academic Jerome Barthelemy.

### Transition Period

Unexpected costs can crop up during the early stages of the outsourcing relationship, when knowledge is transferred from people on staff to members of the outsourcing team. If the contractor is located offshore, that can mean extensive travel expenses and cultural or language training for employees who visit the contractor's site, possibly for months.

If the client and outsourcing vendor need to transfer data between their systems, that might require the deployment of additional network bandwidth and security technologies, says McCray. Companies using an offshore outsourcing service will also need to be aware of the communications and data encryption regulations and requirements in different countries in order to make the necessary network upgrades to comply with them. For example, compliance with U.S. regulations such as the Sarbanes-Oxley Act and the Health Insurance Portability and Accountability Act could lead to additional IT costs for some financial services and health care companies.

Organizations that are replacing employees with outsourced staffs through layoffs or attrition could face human resources costs for severance pay and employee benefits. Depending on how many people are involved, these expenses can run into hundreds of thousands of dollars. Vashista notes that there may also be costs resulting from decreased productivity of workers who are slated to lose their jobs.

Some companies might have to pay retention bonuses to managers and staffers they want to keep on board during the transition and beyond, Vashista says. "If the people you want to [retain do] leave, you're in trouble," he says, because the contractor often depends on the knowledge and experience of these people. "Companies have to use good HR practices to keep the people they need."

If the outsourcing arrangement involves moving U.S.-based people to overseas locations, Vashista says, those costs could amount to \$400,000 to \$600,000 each year per employee, including travel, family relocation, taxes, training and other expenses.

For outsourcing projects that involve the transfer of IT and communications

assets to the contractor, organizations could encounter unexpected costs if they haven't done a thorough, up-to-date accounting of assets. Texttron Financial Corp. in Providence, R.I., learned this when it outsourced all of its telecommunications and data networking operations to AT&T Solutions in 1996. CIO David Raspollo says Texttron underestimated the value of the assets, including servers and desktops, that it transferred to AT&T as part of its contract. The fact was discovered when the outsourcer did an audit, and Texttron incurred unexpected accounting costs to fix the inconsistencies.

"If you don't have an asset management system that gives you an accurate and up-to-date accounting of all the assets in the organization, that's where the major surprise comes," Raspollo says. "You could have some serious miscounts."

### Managing the Contract

After the contract is signed and the work begins, companies can expect to spend an average of \$300,000 per year managing the IT outsourcing contractor, according to Barthelemy's study.

"People often underestimate the amount of effort and energy and the resources it takes to manage the relationship properly," including the transfer of in-house and outsourcing staffs, says Praxair's Hill. His company's South American facilities outsource some computer operations, and its U.S. sites outsource functions such as desktop support.

"There can be significant overhead costs in just managing the financial terms on an ongoing basis," Hill says. "If it's an offshore contract, there can be substantially more overhead just handling the coordination of work

### Tips for Containing Outsourcing Costs

Assess the organization's goals and requirements before committing to outsourcing, to avoid wasting time and money in the vendor-selection process.

Consider all aspects of using an offshore outsourcing partner, including travel, telecommunications, data networking, language differences, regulations and security.

Prepare for the human resources issues that could come up - severance pay, benefits, loss of productivity - if employees are displaced because of the outsourcing deal.

Be prepared to manage the relationship to gain the maximum benefits possible. Create a team of experienced project managers to oversee the contract.

transfer between the offshore site and onshore analysts. I think that's often underestimated."

Another extra cost that may come up during the management phase is the hiring of an experienced contract manager. Companies may come to realize that no one on staff is capable of managing a complex project - or can devote sufficient time to it - and may instead turn to an outside expert for help.

Organizations that don't continuously manage and evaluate the contractor relationship could end up with additional costs or loss of benefits because they're not getting what they paid for. This is especially true for companies that have hired multiple outsourcing vendors for different functions.

McCray says it's wise to create an

outsourcing management organization that oversees long-term service contracts and understands the objectives of each partnership. TPI recently helped a client with multiple outsourcing relationships save \$200 million over the course of the contracts by developing such an organization.

"You can't abdicate management to the service provider, or you will pay the consequences," McCray says.

Nielsen Media Research Inc., which in 1995 began outsourcing select application development work to Cognizant Technology Solutions Corp., an outsourcer in India, created a U.S.-based employee "anchor team" responsible for project control and quality assurance. Nielsen has created similar teams for other outsourcing projects that typically include three or four Nielsen employees who devote all or most of their time to managing the outsourcing work, says Kim Ross, CIO at the New York-based company.

In addition, for each outsourced project, Nielsen relies on about three people from the outsourcing company to serve as U.S.-based liaisons and assist in project management. "This liaison team is more expensive per hour but is warranted to avoid extra time and effort losses due to project control and business knowledge issues," Ross says. In order to keep costs contained, it's important to have the correct number of people helping with contract management, he adds. Too many means higher-than-necessary fees; too few invites the risk of project failures.

With a strong U.S.-based anchor team and liaison group working with the offshore outsourcing staff, Ross says, "the quality and delivery time can match nonoutsourced development projects, so there is no hidden cost due to poor project quality or [late] delivery."

Unexpected costs are sure to arise in any outsourcing endeavor. But with thorough planning and close alignment between the outsourcing project and overall business goals, companies can minimize those costs.

"You need to think through the scenarios and the what-ifs long term as well as short term" to anticipate what costs might emerge and ensure that the outsourcing provider is delivering the expected services, says Hill. "At the end of the day, an outsourcing relationship is a task-based performance contract, not a partnership." ■ 44271

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## OUTSOURCING TRANSFER COSTS

Transition costs can add up to 5% to 15% of the annual base cost of the contract. Here's an example of an outsourced data center (mainframe, Unix and NT), for which the total deal size is \$25 million over five years, equaling \$5 million per year.

ITEM	ESTIMATED COST
Process (knowledge transfer)	\$50,000
People (employee severance plans)	\$100,000
Technology ■ Software license transfers	\$100,000
■ Moving acquired hardware	\$150,000
■ Parallel processing for critical apps	\$50,000
■ New network connections	\$50,000
Subtotal	\$500,000
Other contingencies (10%)	\$50,000
TOTAL	\$550,000
ANNUAL PERCENTAGE OF DEAL	11%

SOURCE: GARTNER INC., STAMFORD, CONN., 2003



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**Q&A**  
How valuable are a company's IT systems, employee skills, culture? For many, they are worth far more than the physical and financial assets that

can be tallied on a balance sheet. Measuring the value of intangible assets has been the Holy Grail of accounting, but in February's Harvard Business Review, **Robert S. Kaplan** and **David P. Norton**, who created the balanced scorecard, propose a new approach. "You cannot 'value' intangible assets," says Kaplan, "but you can certainly measure them and their alignment with value-creating strategies."

Kaplan, the Marvin Bower Professor of Leadership Development at Harvard Business School, showed Kathleen Melymuka how the balanced scorecard — a methodology used to analyze business performance from four perspectives: financial, customer, business process, and learning and growth — can help you measure those intangibles.

You point out that one of the problems in attempting to value intangibles is that their worth differs for different people. Can you explain? With tangible assets like buildings or machines, the value is relatively similar for different kinds of users. If I can't get the maximum use out of those assets, I can sell them to someone else who can. Their value is somewhat independent of use.

Intangible assets don't create value by themselves, so they're not easily tradable or salable to others. Their value comes only in the context of the organization and has to be linked to organizational strategy and to all the other intangible and tangible assets the organization has.

You note that intangible assets seldom affect financial performance directly. How do they affect it? You can't link investments in intangible assets directly to a financial return on investment. Improvements in people, systems or reward systems of the organization work by improving processes, which in turn create more value for customers, and that finally results in higher revenues and margins.

You have to work through this indirect chain with a valid strategy before you can realize improved financial performance from your IT investment.

You suggest that a useful way of measuring the value of intangible assets is to estimate how closely aligned those assets are with the company's strategy. Can you explain? If you're following a low-cost strategy, you want people trained in quality and process improvement so they can reduce the cost of processes and products. You want IT applications that promote continuous improvement and quality improvement, incentives that reward people for lowering costs and improving quality, and a culture of continuous

improvement. Then you have intangible assets aligned to a low-cost strategy.

If you have a product-innovation strategy, you want people trained in the science and technology of the underlying product. You want information systems such as three-dimensional simulation and virtual prototyping. And you want a culture and reward system aligned around innovation and creativity.

You call that alignment of assets and strategy "strategic readiness." How is strategic readiness related to the concept of liquidity in accounting? Accountants organize balance sheets around a hierarchy that puts cash, ac-

counts receivable, inventory at the top, followed by longer-term assets like property, plants and equipment.

The hierarchy is based on liquidity: how quickly these assets can be converted to cash. Intangible assets can also use this measure. If you have a very well-trained workforce with all the IT applications and infrastructure they need, you can deliver value on strategy very quickly. You have a high degree of strategic readiness.

If you move to a new strategy, and employees have to be retrained and reskilled and you need a new set of IT applications, there's a low degree of strategic readiness.

It will be a long time before intangible assets are fully capable of delivering value. So it's a measure of how quickly people, systems and culture can create value with a strategy.

You focus on three types of intangible assets: human capital, information capital and organization capital. When you look at the strategic readiness of information capital, what are you trying to measure?

In the internal perspective of a balanced scorecard, an organization identifies the five to 12 critical processes that are most important to deliver the customer value proposition and determine the success of a strategy.

For a company that is following a complete-customer-solution strategy, does it have the information systems to understand the customer, including data mining capabilities and tracking of all the relationships it has with the customer?

Fifteen years ago, when Procter & Gamble started to work with Wal-Mart intensively, it didn't have customer-focused systems. Each brand knew Wal-Mart as a customer, but it was coded differently in each factory. Procter & Gamble couldn't even add up all its sales with Wal-Mart. How can you have a customer-focused strategy without an integrated system?

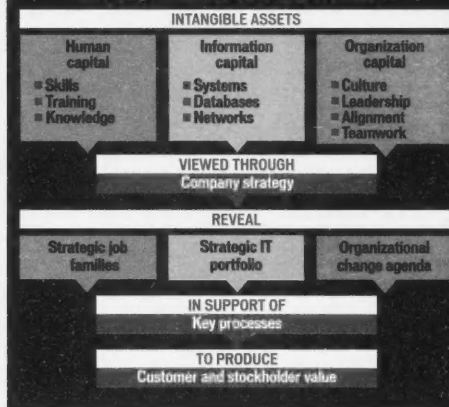
If you're going to have a customer-focused strategy, you're going to need IT systems that are very customer-focused. If you're following a low-cost strategy, you need IT systems that support cost reduction and process improvement. Strategic readiness measures the alignment of IT resources and capabilities with the organization's strategy. **44408**

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This is the latest in a series of monthly discussions with Harvard Business Review authors on topics of interest to IT managers.

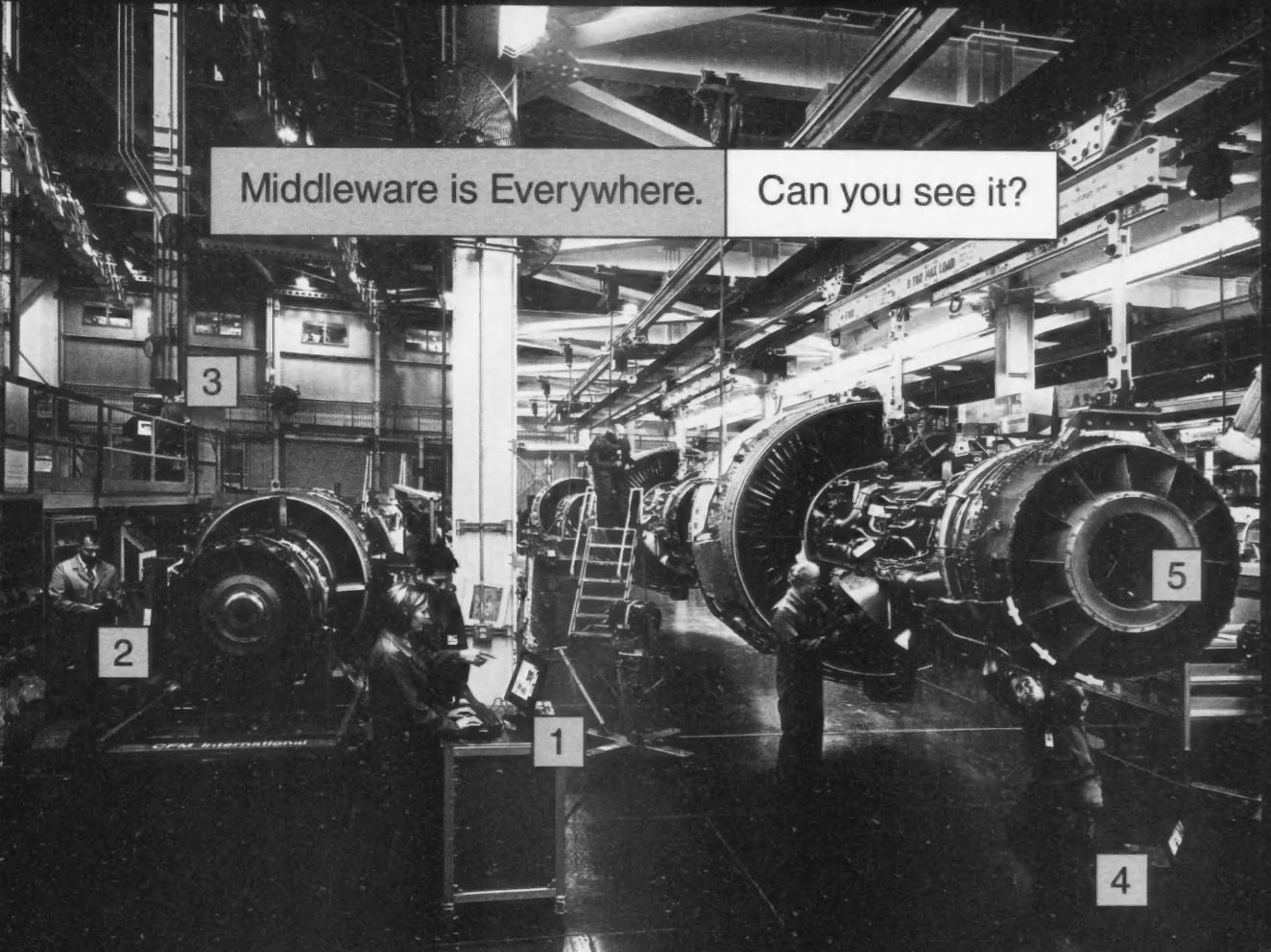
## FOCUSING ON STRATEGIC READINESS

Looking at intangible assets through the prism of company strategy reveals clear areas of focus for improving the strategic readiness that leads to value creation.



# Measuring INTANGIBLE ASSETS

A new approach looks for value through the prism of company strategy.



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**CAREERS****"TAKE THIS JOB AND SHOVE IT,"**

Johnny Paycheck sang in 1977. He was expressing the frustration of being trapped in a really bad job and offering a rather caustic solution to the situation.

Most CIOs have the "opportunity" to change jobs more than once in their careers. Let's assume you're a transitioning CIO and have a choice of several new positions. Pay, benefits and perks are all about the same. How do you avoid Paycheck's job from hell? First, evaluate the job, the company, the corporate structure, the political climate and your potential boss. Second, evaluate yourself to see if there's a good match in each of those areas.

**THE JOB**

■ **Will you be happy in the job?** This is the most critical aspect of evaluating a new job, a new boss and a new company. There isn't enough money, status or security in any job to overcome a miserable situation. The job needs to satisfy your emotional and professional needs. It needs to match up with your present skills and provide growth opportunities that are in line with your ambitions. It needs to mesh with your preferred lifestyle and family commitments. Some companies honor work/life balance, and some expect you to work 12 hours a day, seven days a week. Some have moderate travel expectations, and some will get you to Million Miller status quickly.

Make sure you know the company's culture and expectations, and make sure they match yours. Otherwise, something's going to give. It may be the job, your marriage or your health, but it will be more painful than turning down the job in the first place.

■ **Can you do the job?** I've seen people who interviewed so beautifully they could woo any hiring manager, even with only a so-so match to the job's requirements. But they usually don't last long. The shortfall in skills catches up with them, and they're out. For CIOs, a lack of political skills is actually more of a problem than a lack of technical skills.

Be honest in assessing your fit to the job requirements. You may snow people for a while, but it's you who will end up in the cold.

■ **What's the future of this job?** The CIO's role doesn't stay the same for long. Besides knowing the expectations for the position today, get an idea what you'll be asked to do two, three and even five years out. Make sure this job trajectory matches your career plans.

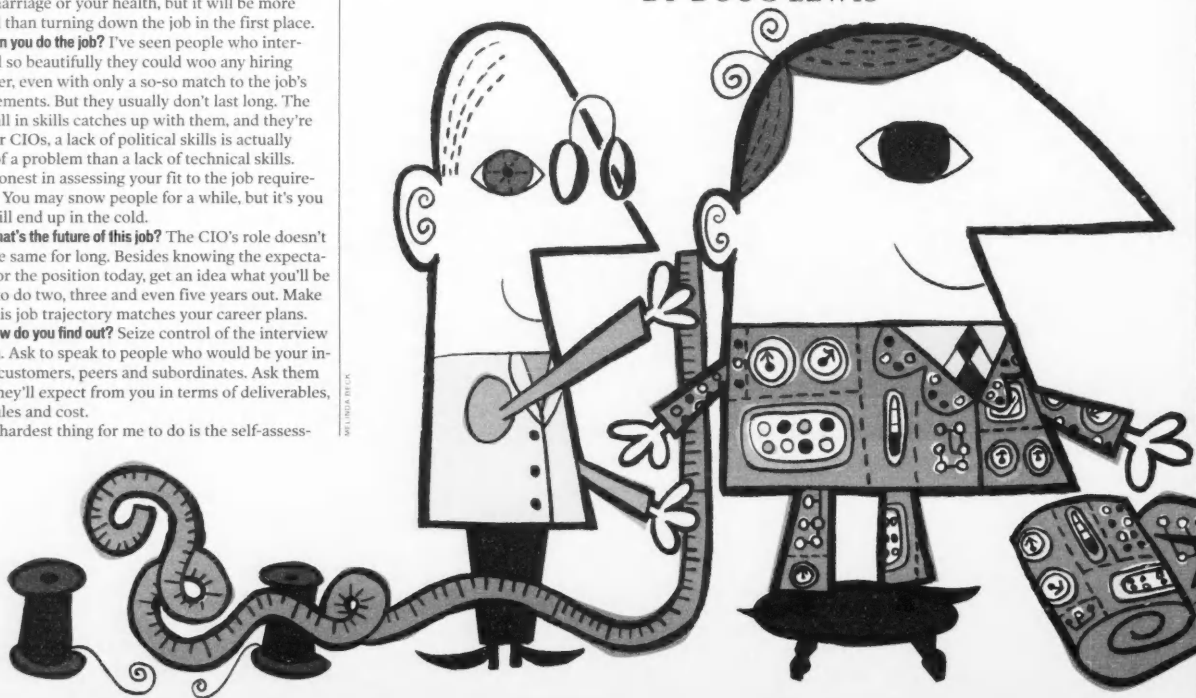
■ **How do you find out?** Seize control of the interview agenda. Ask to speak to people who would be your in-house customers, peers and subordinates. Ask them what they'll expect from you in terms of deliverables, schedules and cost.

The hardest thing for me to do is the self-assess-

# Getting THE Right Fit

CIOs change jobs all too often.  
Here's how to make sure your next  
employer matches your style.

BY DOUG LEWIS



JEFF LABRECQUE



ment, so I rely on my spouse and on a few very trusted associates to be honest with me. Develop your own set of trusted advisers to help you determine your fit for the position.

## THE CORPORATE STRUCTURE

■ **Know how the company operates.** A company's operating model has a surprisingly big effect on the CIO's role [QuickLink 43476]. A holding company with strong business units gives a CIO lots of accountability with little authority. In this case, persuasive ability is an absolute must, while operational skills are less important. On the other hand, operating companies with strong centralized control place huge value on CIOs who have excellent execution skills and detailed knowledge of every facet of the IT domain.

Global companies require a CIO with multinational experience, cultural sensitivity and a cast-iron butt to survive a punishing travel schedule. Foreign-owned companies expect you to operate in their style (and knowing the native language may be an unspoken-but-critical success factor).

At family-owned businesses, you'll find that certain career paths are reserved for family members and that you're expected to tolerate the idiot nephew screwing up the network group.

■ **Learn where IT sits in the company hierarchy and why.** If IT reports way down in the organizational structure — and you're expected to accomplish great change — run like hell. If IT reports to the CEO, be sure you can hold your own in a boardroom setting and be prepared for blood-sport politics.

■ **How do you find out?** A quick look at the annual report will reveal the corporate structure, ownership and geographic dispersion. Figure out where the CIO sits on the organizational chart. And use the Internet to find articles and speeches by key executives and even IT staff members to learn more about the company's operational style.

## THE POLITICAL CLIMATE

Gauging the job's political climate is difficult, but it's the second most important thing to get right. The easiest IT job can be made impossible by the wrong political environment.

I watched an excellent CIO get torpedoed this way. He was hired by the CEO to consolidate shared IT functions in a company with multiple business units. Assured that he had the full backing of the business units, he took the job and charged ahead with a very reasonable plan.

What the CIO didn't know was that the CEO didn't have the backing of the business-unit presidents or the backbone to stand up to them when they rebelled against losing their IT turf. The CEO backed down,

Trajectory Matters			
When researching your next employer, try to identify the company's trajectory. Is it recovering, accelerating, coasting or failing? Each path has implications for the new CIO.			
RECOVERING COMPANIES	ACCELERATING COMPANIES	COASTING COMPANIES	FAILING COMPANIES
<b>A CIO experienced in doing turnarounds [QuickLink 41369]</b>  <b>WHAT THEY NEED</b>	<b>Someone who can support rapid expansion — without parallel growth in IT spending</b>  <b>WHAT YOU'LL NEED</b>	<b>An optimizer and cost-squeezer</b>  <b>A focus on cost details, process optimization and fine-tuning existing applications and operations</b>	<b>Someone dumb enough to take the job, barely smart enough to do the job and willing to take a meat ax to budgets and people</b>  <b>A cold heart and a bodyguard</b>
<b>The ability to make quick assessments, build relationships, execute quickly and endure tough times</b>	<b>Vision, aggressiveness and business acumen</b>		

and you can guess what happened to the CIO.

I saw another exceptionally talented CIO get into a job well within his leadership abilities but way over his head politically. Denied the political "air cover" his boss had promised, the CIO went down in flames.

■ **How do you find out?** Look your potential boss straight in the eye and ask if there's solid support for the role you'll be asked to play. Have the business-unit presidents bought in? If he flinches, blinks or hedges, suspect that things aren't right. Meet two or three business-unit presidents and ask how they feel about the CIO position and their commitments to what you'll be asked to do. Find some people who have left the company and talk with them. Best of all, talk with the previous CIO.

## THE NEW BOSS

Picking a boss ranks just under picking a spouse in terms of impact on your life. (It's not the same level of intimacy, but you'll probably spend more waking hours with the boss.)

■ **Know what's important to you in a professional relationship.** My list isn't long:

- I need to respect my boss, and I want respect in return.
- High business and personal ethics are mandatory.
- Consideration of the fact that I have a personal life is a requirement.
- I want my boss to be competent. If he's not, I can't hope to be successful.
- I hope to like my boss, but not liking him isn't a stopper if the other criteria are satisfied.

You need your own list — and don't compromise. The trick is to find out what it's like to work for this person. What's his style, and does it mesh with yours? Does the boss have the clout to accomplish the vision? What's his trajectory in the company: rising,

coasting or falling? (His trajectory will influence your clout.) What's his track record in previous companies? Does he understand IT? If he can barely turn on his computer without help desk support, he's unlikely to be much of a supporter in the boardroom when things get tough.

■ **How do you find out?** Interview your potential boss as he is interviewing you. Ask about his workstyle and seek examples. Probe for how he'd deal with ethically dicey situations. Ask about "the vision thing" and work/life balance. Figure out his expectations for you in the first 30, 60 and 90 days. The answer will tell you a lot about his understanding of IT.

Find people who have worked for him in past jobs; they can be a wealth of information. Google him to dig up his track record. Think of this as a reference check. A potential employer will do one on you, and it's fair to do your own on him.

This is a lot of work, and it's very different from the usual strategy of résumé-polishing and interview

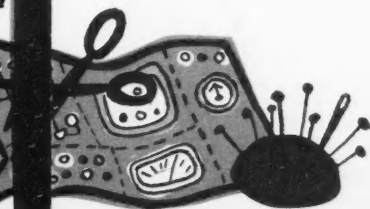
posturing, but it's worth it. The best boss I ever had knew what IT could do and, better yet, what it couldn't do. He had a compelling vision for the company and IT's role in making his vision a reality. He could explain what I was doing and why, even in the most intense boardroom discussions. He had high ethics, we respected each other. I also liked him. And I used the process I've just described to find him.

Do your homework, and you could end up with the near-perfect boss. Then you won't have to tell anyone to "take this job and shove it." ☎ 44304

Lewis, a CIO for 17 years, is the founder and senior partner of The Edge Consulting Group LLC in Atlanta. He can be reached at [edgeconsulting@bellsouth.net](mailto:edgeconsulting@bellsouth.net).

## DUE DILIGENCE

- Don't trust the human resources department to tell you the down-and-dirty realities of the job. HR has a mission to accomplish: Fill the position.
- Scour the Web to figure out what the company and its executives are really like.
- Figure out if the company culture is family-friendly or travel-intensive.
- Talk to internal customers, peers and subordinates to find out what they expect from a CIO.
- Ask your stockbroker to help analyze the company.
- Look at the company's products and services. Are they innovative or passé? Would you buy them?



## BRIEFS

## J.M. Smucker Board Elects New CIO

Andrew G. Platt, director of business technology at The J.M. Smucker Co., has been elected to vice president, information services, and CIO. Platt started his role last week at the Orrville, Ohio-based company, which is known for its fruit spreads. He will report to the company's vice president and controller, Richard G. Jirsa.

## Consultancy Exec Now State CIO

Lemuel C. Stewart Jr., president of Executive Partners, a consultancy in Glen Allen, Va., last week officially became Virginia's new CIO. Stewart has more than 30 years' experience in IT, including executive positions at QuadraMed Corp. and Trigon Blue Cross/Blue Shield of Virginia. During his five-year term, Stewart will oversee the Virginia Information Technologies Agency. His responsibilities will include consolidating IT and managing nearly \$500 million in annual IT investments.

## Video Chain Elevates IT Entrepreneur

Hollywood Entertainment Corp. has promoted F. Bruce Giesbrecht, who entered the industry in the 1980s as a software vendor specializing in video systems, to president and chief operating officer. Giesbrecht helped Hollywood's founder and CEO, Mark Wattles, open his first store in 1988 and has worked at Hollywood since 1993, when he was CIO. Giesbrecht most recently was general manager of corporate operations.

## Specialty Insurer Promotes IT Exec

RLI Corp., a Peoria, Ill.-based insurer that offers specialty property and casualty coverage for niche markets, has promoted Piyush K. Singh to CIO. He joined RLI in 1994 and has been vice president of IT since 2000. He previously worked as a financial services consultant at Price Waterhouse LLP.

BART PERKINS

## The Case of the Missing Metrics

**S**UCCESSFUL OUTSOURCING efforts require metrics that are clearly specified, effectively monitored and consistently correlated to the needs of the business. Good metrics support your cost and service goals and are consistent

with your culture. Examples include unit costs of a service (such as cost per minute, cost per help desk call) or response time per event (such as two hours to respond to a PC failure). Unfortunately, many outsourcing contracts contain metrics that are ineffective and insufficient [QuickLink 38242.]

But even a contract that specifies excellent metrics is no guarantee of success. Metrics must be gathered, monitored and reviewed before they can be used to improve service. In many cases, the performance data is never collected, and no one even notices.

Some organizations have downsized so much over the past several years that they don't have enough people to execute the measurement processes specified in their contracts. Both parties are frequently guilty of not fulfilling their sides of metrics management.

Unless service levels become intolerable, many organizations believe that the efforts required to collect and manage the performance data are unwarranted. This can be a costly mistake. One company outsourced desktop procurement and management for 30,000 desktops. The multiyear contract stated that as the PC manufacturer lowered prices, the outsourcer would pass those reductions on to the company. But the customer never checked, and the outsourcer kept the difference. The company's failure to



BART PERKINS is a managing partner at Leverage Partners Inc. in Louisville, Ky., which helps CIOs manage their IT suppliers. He was CIO at Tricon Global Restaurants Inc. and Dole Food Co. Contact him at Bart.Perkins@LeveragePartners.com.

monitor its outsourcer cost it over \$1 million per year. Monitor your metrics effectively by taking the following steps:

■ **Assign responsibility.** In a surprising number of cases, the outsourcer's adherence to the terms of the contract goes unnoticed and unchecked simply because nobody is ever assigned to monitor it. The neglected vendor gets a free ride until there's a major problem.

■ **Establish consistent metrics.** Make sure your organization and your outsourcer are on the same page. One

company outsourced one of its four help desks. It had a proprietary system to measure help desk staff productivity. The company wanted to continue to compare productivity across all four help desks, but the outsourcer used different software. Since the data was not comparable, more time was spent arguing about which numbers were correct than evaluating productivity.

■ **Trust, but verify.** Don't rely exclusively on the metrics provided by your outsourcer. Even if it produces voluminous reports, your organization needs to be close enough to the metrics to accurately assess their validity.

■ **Review metrics jointly.** The outsourcer will be more motivated to collect performance data if it knows it will be held accountable. This data forms the basis for enforcing contract penalties and paying incentives. Conduct regular review meetings with

your outsourcer, and use this forum to create a joint plan to improve your outsourcer's service levels.

■ **Reward excellent performance.** Before you put incentive clauses into a contract, carefully consider whether the benefits of better service outweigh the additional costs. But if you put incentives in the contract, honor them without fail. Excellent performance that goes unrecognized isn't likely to recur. Even if the contract doesn't require incentive payments, reward the outsourcer in some manner. Offer to serve as a reference or tell the outsourcer's president how pleased you are with its performance.

■ **Listen to your customers.** If you've outsourced a customer-visible function (such as the help desk), the outsourcer's performance is often the only performance your customers will see. A customer's perception of acceptable performance is as valuable as any other metric. If your metrics aren't accurately reflecting the needs of your customers, re-examine your metrics.

■ **Create a metrics management process.** It's crucial to re-evaluate metrics periodically to determine if they're meeting the changing needs of your business, especially in long-term contracts. No contract can anticipate every contingency, so make sure it specifies a process enabling you to change metrics as your business evolves.

Metrics are an important key to leveraging better performance from your outsourcer. But to be effective, they must be an integral part of both the contract and the ongoing management of your outsourcer. If you don't use the metrics you designed and negotiated, you'll get the performance you deserve. **44278**

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## Sr. Systems Analyst

Implement, develop & upgrade Oracle Apps, using 11i, CRM, GL, PA, OM, AOL, Forms, Reports. Masters degree in Comp. Sci. or Apps. req'd. Must have two yrs. of demonstrable prof. exper. using Oracle Appl. 11i, TechnoFunctional using OPM, Oracle Fin. Forms, PL/SQL loaders, TOAD and Unix Shell Scripting. Must be willing to frequently relocate. \$66,550/yr., F/T, hrs. vary. Resumes to: Site Admin., Greene City Careerlink, 4 W. High St., Waynesburg, PA 15370-1324. Reference Job Order # 388670.

Technical Support Specialist. Analyze & coord user & tech support prgm; test, maintain, troubleshoot s/w,ware & n/work using Oracle8i, VB, MSAccess, WinNT, routers, switches & Unix, provide tech support/updates to users. Req'd Bach or equiv in Comp Sci/Engg or related Engg, IT, Business Admin/Mgmt. 2 yrs exp in job off'd or as Systems/Software/TI prof't using above skills. 40hrs/wk. 8a-5p. Resume to New Horizons Computer Learning Ctr, 445 Doleys Madison Rd, Greensboro, NC 27410.

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**SYNAPSE GROUP, INC.**, a leading computerized magazine marketing company, is looking to hire qualified candidates with, at minimum, a Bachelors degree in Computer Science, Information Systems or it's equivalent plus two years of experience for the following positions:

**ASP DEVELOPER** to use ASP, HTML and SQL programs to implement new systems into several multifunctional tiers to handle data processing, database, data retrieval, order entry, report generation and to coordinate changes made to the computer databases and existing systems. Two years experience in the job offered required with sound knowledge of ASPADO, VBSCRIPT, SQL, ORACLE, UNIX, JAVA AND HTML.

**WEB DEVELOPER** to monitor, maintain and add enhancement features to the existing database programs and to design, develop and create internet application systems that handle order entry, database, data retrieval and document management. Two years of experience in the job offered required with extensive knowledge in the management and designing of Database Systems, Java, JavaScript, HTML, SQL, ASP, Front Page, Sun Solaris, Windows 95/NT and Oracle Database.

**E-COMMERCE DEVELOPER** to maintain and add enhancement features to the computer databases/systems, to design and develop E-Commerce applications for handling order entry, database, data retrieval, report generation, and document management. At minimum, Bachelors degree in noted fields above or Business Administration or its equivalent plus two years of experience in job offered with extensive knowledge of JAVA, ASPADO, VBSCRIPT, SQL, ORACLE, UNIX, JAVA, HTML, WWW and related protocols.

The company offers a competitive compensation/benefit package and an environment where achievements are recognized & professional growth is encouraged. Qualified applicants are encouraged to mail resumes to Dept. of Human Resources, Synapse Group, Inc., Four High Ridge Park, Stamford, CT 06905.

**Computers - Application Engineers** needed. Seeking qualified candidates possessing BS or equiv and/or rel. work exp. Part of the req. rel. exp. must include 2 yrs. working with SAS, Oracle & UNIX. Duties include: Design & develop SAS based production applications that interface with Oracle database; Monitor & plan database file size; create table partition & support process documentation for production applications; Work with Oracle Enterprise Manager, Oracle Designer & Visual Source Safe. Fwd. resume & ref. to Spectra Marketing Systems, Attn: HR, 150 N. Queen St., 7th Floor, Lancaster, PA 17603.

**PROGRAMMER ANALYSTS** req'd for Chicago, IL office. Develop & maintain software applications using VB, VB.NET, Delphi, SQL, ASP, VBScript, JavaScript, XML. Develop client/server applications in Oracle, PL/SQL. Developer 2000 & Designer 2000. Bachelors or equivalent req'd in Computers, Engineering, Math or related field of study. 2 yrs of related experience. 40 hrs/wk. Must have proof of legal authority to work permanently in the U.S. Send resume to HR Manager, Masterminds Global Solutions, LLC, 6000 Fairview Road, #1200, Charlotte, NC 28210.

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## WEB DEVELOPMENT ANALYST III

AOT Security Services, Inc. has multiple openings in Boca Raton, Florida for Web Development Analysts III.

Analyze business procedures and problems to develop specifications and convert them to programable form for electronic data processing. Confer with organizational units involved to determine specific web output requirements. Study existing data systems to evaluate effectiveness and develop new, or modify current, web systems to improve production workflow.

Must possess at least a bachelor's or its equivalent in Computer Science or a related field, and relevant work experience. Experience must include IEEE Certification (Sun Microsystems, etc.), web development experience including Electronic Data Interchange (EDI), and experience with Oracle, SQL, WebSphere Administration and XSLT.

Resume and/or cover letter must reflect each requirement above and specify reference code: MW/SSS or it will be rejected.

Forward resume to Theresa Maia, AOT Security Services, Inc., One Town Center Road, Boca Raton, FL 33486.

**Software Engineer (Applications)** Sought by Englewood Colorado consulting company. Duties: To work in various anticipated locations throughout the U.S. Duties: Under direct supervision, develop, create and modify general computer applications software or specialized utility programs. Analyze user needs and develop software solutions. Design software or customize software for client use with the aim of optimizing operational efficiency. Analyze and design databases with an application area. Use of DB2, COBOL, CICS, VSAM, ADW, JCT, UNIX, Windows NT and SQL. Reqs: Masters or equivalent in Computer Science, Computer Engineering, Electronics and Communication Engineering or related field. Plus 1 year in the job offered or 1 year in a related occupation, including Computer programmer, Assistant Systems Analyst or Programmer Analyst. \$73,230.75/year, 40hrs/wk, 8AM-5PM. Respond by resume to WORKFORCE DEVELOPMENT PROGRAMS, PO Box 46547, Denver, CO 80202, and refer to Job Order No. CO5066223.



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A position-area computer engaged in state-of-the-art records, data, and information management, has an immediate opening for two (2) highly skilled Strategic Financial / e-Business Analysts. These senior project / team leader-level positions involve the formulation, development, and organization-wide deployment of complex integrated Oracle e-Business implementations of both highly customized and vendor application software for transaction processing, "OFA" decision support systems, and data warehousing. This position also will be responsible for financial / business analysis, strategy, and software applications architecture, and day-to-day hands-on project management. Minimum educational requirements include a Bachelor's degree in Finance, Financial Management, Information Systems Management, or similarly relevant major. Minimum professional requirements include Oracle-certified Enterprise Resource Planning (ERP) Masters Certification in Oracle Financials. Minimum experience required is seven (7) years of relevant experience (or a relevant Master's-level program and 5 years experience may be substituted in lieu of 7 years experience) involving the business analysis of computer-based financial and accounting systems, at least three (3) years of which specifically involved both internal and external auditing. Specifically required is the demonstrated ability to formulate an implemented eBusiness technology strategy. Also required is the demonstrated ability to design and implement an eBusiness infrastructure within an Oracle financial application suite using UML design tools. Additionally required is the demonstrated ability to generate software development methodologies compliant with the Software Capability Maturity Model ("SW-CMM") and to develop, document and present policies and implementation methodologies for business systems development. Further required is the demonstrated ability to design, code and configure an Oracle Financial Analyzer (OFA) and Oracle Express Server (OES) and design and implement Oracle General Ledger integration with a multi-country OFA financial budgeting application. Finally required is the demonstrated ability to design sophisticated analytical reports in Oracle Discoverer and Oracle Developer 2000 using Oracle PL/SQL, XML, and UNIX. Starting salary is \$91,000 per year, together with a complete benefits package includes contributory medical, dental, full life, AD&G coverage, STD, LTD and two weeks earned time off, 401(k) plan, and other industry-competitive benefits. Qualified applicants respond with two (2) copies of resume only to: Case # 20203481, Labor Exchange Office, 19 Stanford Street, 1st Floor, Boston, MA 02114. An EOE/MF/HV.

Marketing Specialist needed. Perform market research to develop marketing strategies to increase sales and/or market share for all services, determine most effective market research methods to track demographic & market trends, implement marketing strategies, analyze results & develop marketing strategies, formulate short-term marketing goals, maintain relationships with other areas of the organization to track effectiveness of existing marketing programs. May participate in the development of new products and services, & determine new markets in which to compete. Req: Bachelor's Degree, 4 yrs. Business Admin. & min. 4 yrs. exp. in market analysis and/or market research as well as expert writing market research reports. Req. solid computer skills, incl. Word, Excel, Access, PowerPoint.

Must be available to work from our Amherst, NH office. Please submit resumes to: Mr. J. C. Attn: HR, One Overlook Drive, Unit 2, Amherst NH 03031 or kbuff@auriga.com.

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Seeking qualified applicants for following positions in Memphis, TN: **Operations Research Analyst**. Using operations research methods, analyze broad and complex corporate problems and projects. Requirements: master's degree or equivalent in operations research, applied mathematics, engineering or other quantitative field plus 1 year of experience in systems analysis, engineering, applied mathematics or related field. Education and/or experience must have included: development of optimization models; development of heuristic algorithms using C and/or C++; and development of statistical models using Minitab. "Ph.D. in appropriate field will offer experience requirement. Submit resumes to Michael Umlauf, Federal Express Corporation, 3680 Hacks Cross Road, H-2220, Memphis, TN 38125. EOE MF/DFV.

**Certified Technical Instructor** Must have Bachelor's degree in related field and should hold a minimum of 4 or more of premium IT certifications such as Oracle Certified Professional (Certified DBA/Certified Developer), Microsoft Certified Systems Engineer in Windows 2000 or Windows 2003, Microsoft Certified Database Administrator, Certified Novell Engineer and should also be a current Microsoft Certified Trainer. Develop and conduct programs to train students of computer learning centers in course instruction, including advanced training in Microsoft and Oracle products. 40 hrs/wk, 8:30AM-4:30PM. Competitive Salary. Send resume to: New Horizons, ATTN: HR, 4053 Lavista Rd, Tucker, GA 30084.

**Applications Programmer Analyst** Specialist, Rockville, MD. WyStar Define & dev. software appl. Regs. BA in MIS, Computer Science or Elec. & Computer Eng. & 2 yrs. exp. as a Developer, Prog. Analyst, or Systems Analyst. The 2 yrs. exp. must incl. work w/ daily 401(k) Record Keeping & Daily Trading Appl. systems, Windows NT, C#, UNIX, Sybase, MS Access, C++, Java, Java Script, HTML, VB, VB Script, HP-UX, SQL, PL/SQL, C, & Unix Shell scripting, 40hrs/wk, M-F, submit resumes to: Mr. J. C. Attn: HR, One Overlook Drive, Unit 2, Amherst NH 03031 or kbuff@auriga.com.

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**Software Engineer** (Des Moines). Research, design & dev. computer software syst. in conjunction with hardware product development. Consult with hardware eng. and other staff to evaluate interface between hardware & software, & operational & performance requirements of overall system. Provide technical guidance on client projects. Will use VB, Oracle, C++, Java, PeopleSoft, Unix, SQL Server, Win NT etc. Req'd: Masters in CS, Eng. Math or MIS, 2 yrs exp in job or Prog Analyst or Systems Analyst or Bach's with 5 yrs as Prog Analyst or systems analyst. 40 hrs/wk, mon-Fri, 9 am to 5 pm \$80,000/yr. Must have proof of initial authority to work in the United States. Send your resume to Iowa Workforce Center, 215 Watson Powell Jr. Way, Des Moines, Iowa 50309. Please refer to Job Order IA1101849. Employer paid advertisement.

**Programmer Analyst**, design, development, test and implement specialized business apps. in Business Objects Ver. 5.1 Web Intelligence and related Business Objects products, RSA Basefile SDK, VBA, ASP, Oracle and related RDBMS and related tools. \$55,000/yr., 40 hours per week. No OT. Mon-Fri, (8 AM-5 PM). Need to have a B.S./B.A. (Or Foreign/Functional Equiv.) in Science/Engg./Bus. Admin. with 2 yrs. exp. in job offered. Employer is a software consulting company and job duties will be performed in Rutland, Vermont and various client sites throughout the USA. Send resumes to Job No. 612545, PO Box 488, Montpelier, VT 05601-0488.

**Sr. Systems Analyst**

Design, develop programs using Data Warehousing concepts and data modeling. Masters degree in Comp. Sci. or Appl. req'd. Must have two years of demonstrated prof. exp. using and Database 4.0/5.0, relational databases, Teradata/Oracle/SQL Server, Data modeling with Erwin, OLAP tools, OLAP Tools Microstrategy, Actual, TLT Tools, Informatica 5.1/6.1 on platforms Win NT, Solans and HP-UX. Must be willing to frequently relocate. \$66,550/yr., F-T, hrs. Vol. Resumes to: Sile Adams, Greene City Career, 9210 W. High St., Waynesburg, PA 15370-1324. Reference Job Order # 388667.

**Web Developer**

Research, design, develop, test, implement and support customized web applications and databases using Dreamweaver, Authorware & MS Frontpage. Elevate the capabilities of web-related systems to support business process improvements, assure the web applications meet company's standards, security, and legal requirements. Participate in general systems maintenance, and technical administration of the applications. Req. Bachelor's degree or equivalent in Computer Science with proficiency in ASP, Visual Basic and SQL. Must be Microsoft Certified System Engineer. 40 hours/week, 9 to 5. Contact Mandarin Antiques, Inc. 700 Miami Circle NE, Atlanta, GA 30324.

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**Management Business Analyst**

Wachovia Corp. Analyze user & bus. req. & engage in project planning systems analysis & design, & system configuration mgmt. for securities processing systems on the basis of portfolio management accounting & securities lending system expertise. Req'd: MA in Bus. Admin., Finance, or Info. Systems & 3 yrs. exp. in the job off. or 3 yrs. exp. as a Systems or Programmer Analyst. The 3 yrs of exp. exp. must incl. work w/ appl. dev. using SQL Server 2000 or equiv. and Java, VB, and COBOL, and must incl. working w/ investment accounting and securities characteristics valuation fundamentals. 40 hrs/wk, M-F. Send resume and cv to: Michelle Eynok, 11440 San Vicente Blvd., 3rd Floor, Los Angeles, CA 90049. No phone calls please.

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for program or system analyst / IT engineers. Candidate must have BS/MS degree. Travel is required for some positions. Skills in C/C++, VB, Oracle, SQL, SAP, WebSphere, Java are plus. Good salary. Please send resumes to: info@iscorp.com. EOE. CMS (Customer Management Systems) has openings for experienced IT professionals to provide full life cycle IT & business solutions to clients. Qualifications include BS with experience using SQL, EJB, JSP, UML, OOP/OOD, Lotus, Java, VB, etc. Apply at: cms@earthdome.com. EOE. No calls.

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**SENIOR DATABASE PROGRAMMER/ANALYST** - Los Angeles. Administer, coordinate & maintain databases & related systems in connection with direct to consumer marketing activities of worldwide developer of interactive games & education software. Bach in comp sci, mechanical engg, or info sci. +3 yrs exp in job offered or 3 yrs exp. with database analysis, programming & design. Must be proficient with E-PHONY and SQL. Send resume & letter to: Human Resources Attn: SDPA-Vivendi Universal Games, Inc., 6080 Center Dr., Los Angeles, CA 90045.

**COMPUTERS** - Sr Software Consultants needed. Seeking qual. cand. possessing MS/BS or equiv. and/or rel. work exp. Part of the exp. must include 2 yrs. working with network administration & 1 yr. working with Unix system administration. Visual Basic & ASP. (Exp. can be simultaneous). Duties include: Design, develop & implement IBM WebSphere software products & systems. Work with Visual Basic, ASP, JavaScript, HTML, MQ Series & Net Data. Fwd. resume & ref. to: e-Emphasys Tech, Attn: HR, 2401 Weston Pkwy, #101, Cary, NC 27513.

### Programmer Analyst

Develop and analyze employee job tracking system and work order dispatch system using MOV architecture, struts framework, EJB technology and 3-tier system. Req. M.S. in Comp. Sci. or a related field. 1-yr exp. in software development and proficiency in Java, EJB, MWork and MField. 40hrs/wk. Send resume and cover to: Mr. Oday Mickel, OMSYS Services, Inc. 1309 ST. John's Blvd. Rd. N. #8 Jacksonville, FL 32225. Fax: 904-646-4701.

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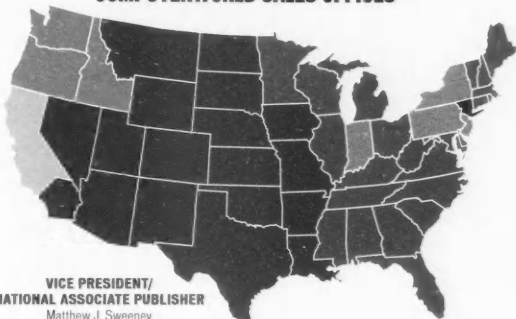
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## Amex Offshore

against disclosing such information. What's clear is that some IT employees within Amex are disturbed by what they understand to be a major offshore shift.

"They qualify as one of the Benedict Arnold companies exporting jobs overseas that [presidential candidate] John Kerry has been talking about," said a current Amex employee, who spoke on condition of anonymity.

According to the former Amex IT employee, most of the offshore work "is likely to go to India because they already have staff there." However, he said that Accenture Ltd., which is in a long-term IT outsourcing deal with Amex, is subcontracting a portion of the development work to Chinese IT agencies. *Computerworld* was unable to corroborate that, however, and Accenture didn't respond to

requests for comment by press time.

According to Avivah Litan, an analyst at Gartner Inc. in Stamford, Conn., Amex is indeed looking to expand its offshore software development.

"This is the IT development and maintenance staff for their credit card stuff, including risk management, charge-back and all the applications associated with that," Litan said. "It's going to make everyone [in Amex's IT department] really nervous. It's very scary to the employees."

"The reason people at American Express are so scared to tell the IT employees that they may lose their job is those employees can wreak havoc with the systems," Litan said.

### Maintaining a Mix

Tony Mitchell, a spokesman for Amex, said he couldn't disclose any plans for IT layoffs, either short or long term. Mitchell said he wasn't permitted to discuss details about Amex's plans for offshore out-

sourcing or its contracts with vendors, but he did say that Amex isn't shifting the amount of offshore outsourcing the company performs.

"We've had a fairly steady number of employees. That work gets supplemented by third-party providers. At any given point in time, there can be a shift in the mix in terms of who and where that application development work is getting done," he said.

Amex has long used offshore services to expand its global reach and flexibility in developing new products.

"Certainly cost is a factor, but we're not going to sacrifice service, quality and efficiency for cost," Mitchell said. "Of course, people have different feelings and thoughts about it, but our employees know that our objective is for the company to grow overall both in the U.S. and outside the U.S., which in the end benefits not only our shareholders, but also our business and employees as well."

**The reason people at American Express are so scared to tell the IT employees that they may lose their job is those employees can wreak havoc with the systems.**

AVIVAH LITAN, GARTNER INC.

Since 1994, Amex has operated its Financial Center East in New Delhi. It's one of the company's three major transaction-processing centers. The other two are in Phoenix and the U.K.

"Having people who are capable of doing work around the world we think gives us greater flexibility to meet our technology demands, and we also think it's consistent with serving a global customer base," Mitchell said.

Amex is following an offshore outsourcing trend that has emerged in the financial services sector and in other industries. Gartner predicts that by the end of this year, one in every 20 U.S. IT jobs will have moved offshore.

"All the New York banks and brokerages have been doing this. First Data Corp. has outsourced most of its development to India. They're upgrading the entire credit-card-processing platform there," Litan said.

A spokeswoman for First Data declined to comment on the bank's offshore outsourcing plans.

James Beams, an analyst at Financial Insights in Framingham, Mass., said that while he hadn't heard of any specific plans by Amex to expand its offshore outsourcing, it would not surprise him.

"It's a megatrend. The question would be, 'Why are they doing such a small fraction of it right now overseas?'" Beams said. **■ 44543**

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## Weak Dollar

his offshore services company will absorb the financial impact, and he expects competition to keep other Indian firms from raising prices, at least for now. "Companies are not taking the risk of going back to their customers" to renegotiate contracts, Kumar said.

But Indian service providers may not hold back for long. Users of offshore services, which are typically contracted in U.S. dollars, may see price increases, along with contracts that share the risks and rewards of currency changes, outsourcing consultants said.

Mike Murphy, an attorney at Shaw Pittman LLP in Los Angeles who represents buyers of offshore services, said the margin pressures facing Indian suppliers will likely lead to increased rates. But users

may have choices, he said. Some contracts may carry higher labor rates but lock those rates in for a defined period of time. Another model may give users the lowest competitive rate upfront but include a formula for adjusting those rates in response to currency and inflation changes, Murphy said.

Lance Travis, an analyst at AMR Research Inc. in Boston, said many Indian IT shops have been trying to raise their fees recently, in part to offset exchange-rate differences. But they haven't had much luck, he said, largely because competition in India is fierce and the U.S. economic recovery is still in its early stages, giving Indian firms little leverage.

Differences in exchange rates haven't been on the radar screens of IT managers such as Jean Davis, senior executive vice president of IT, e-commerce and operations at Wachovia Corp. "I don't

**I don't think we've factored [the weak U.S. dollar] into our decision-making, since the differential in [U.S. and Indian labor costs] is so dramatic.**

JEAN DAVIS, WACHOVIA CORP.

think we've factored [the weak U.S. dollar] into our decision-making, since the differential in [U.S. and Indian labor costs] is so dramatic," she said. The Charlotte, N.C.-based financial services company has a handful of "small" projects in India, Davis said.

But the issue is likely to get more attention. The dollar is down

13% since early 2002 when weighted against all currencies, said James Glen, a senior economist at Economy.com Inc. in West Chester, Pa. This change varies by country: Weighted against the Indian rupee, the dollar is down 7.5% since 2002, but against the Canadian dollar, it has dropped a whopping 18%.

Curtis Helsel, vice president of data and technology management at the University of Colorado Foundation in Boulder, turned to near-shore service provider CenterBeam Inc. last year to manage the group's infrastructure and help desk support. The foundation's operations are managed at CenterBeam's facility in Saint John, New Brunswick, under a three-year agreement.

Helsel said he has two concerns: how the long-term exchange trend might affect his contract renewal price, and whether it could lead to

cost-cutting actions by the provider and potentially affect the foundation's service levels.

Keith Roberts, chief financial officer at San Jose-based CenterBeam, said the currency impact is minimal and won't affect services. U.S. companies don't send work to Canada primarily because of the currency rate but rather because of other factors, such as a talented, lower-cost workforce and lower real estate prices, Roberts said. But if the currency trend were to continue, the company might apply "hedging" strategies, such as buying Canadian dollars in advance of a rate increase, he noted.

If the U.S. dollar continues its decline - and Glen said he believes that will be the long-term trend - offshore vendors may be inclined to begin sharing the risks and rewards of currency fluctuations with their customers, outsourcing consultants said. **■ 44601**

FRANK HAYES ■ FRANKLY SPEAKING

## Teach Your Users

**M**IKKO HYPPONEN has lost faith in educating users about worms and viruses. "It never helps; people will never learn. . . . They will click on everything," Hypponen told the Reuters news service last week. "We really have to take security to a higher level and take the responsibility away from the users."

Hypponen's despair is understandable. He's director of antivirus research at Finnish security vendor F-Secure Corp. He had spent the previous week watching the Mydoom worm do its work.

He's right: Educating users about viruses isn't working.

Trouble is, there really isn't anything better.

Actually, virus education used to work pretty well. It consisted of telling users, "A virus can wipe out everything on your hard disk." Those 10 words got their attention and convinced them of the value of antivirus software and safe computing practices all at once. The threat of total annihilation will do that.

What changed? Users didn't really get dumber. Virus writers got smarter. They stopped creating worms that erase hard disks and destroy data. To the half-million or so small-business and home users whose PCs were infected by Mydoom, the worst that happened was that their Internet connections were a little slow.

The threat — to them — was gone.

The result? Those Mydoom-infected PCs formed a huge denial-of-service gun aimed directly at SCO.com. When the trigger was pulled, SCO.com was blown off the Web. That wasn't just a threat; it was a thoroughly successful DoS attack. And now that Mydoom has proved the concept with SCO.com, anyone could be next.

So, what can we do? Can we take it up a level so we don't have to worry about educating hopeless users?

Let's see. What if Microsoft bundled antivirus software with its operating systems, provided free virus-definition updates and even made the updates automatic? Then all those users would be protected.

But it would require that a convicted monopolist roll over the entire antivirus industry. And antitrust issues aside, would Microsoft donate the ongoing cost of virus research and all the bandwidth required to regularly push virus definitions to hundreds of millions of Windows

users? Bill Gates isn't that kind of philanthropist. And if users don't see a threat, they won't pay for it.

Let's try again. Anyone connected to the Internet must have an Internet service provider. Should ISPs automatically scan all Internet traffic for viruses? That piles a big, expensive processing load on ISPs, along with a load of legal liability. It's already a low-margin business; ISPs aren't going to take on huge extra costs and risks voluntarily. They can't afford to.

How about virus filtering at the Internet backbone? Not a chance — it's ISP economics, but with a cost that's orders of magnitude greater.

OK, what about a law that requires every PC to have antivirus protection? Good luck enforcing it — scofflaws already ignore far more critical legal requirements. Besides, who's going to notice that a user has no virus protection unless there's a Mydoom-like outbreak? And if there is, who's going to single out one user in 500,000 for legal action?

Even if big corporations subsidized antivirus software for home users, there would still be plenty of users who just wouldn't bother to install and update it if they didn't see a need.

Which brings us back to educating users. Sure, it seems hopeless. But we've got to redouble our efforts to make users understand that the threat from worms and viruses is real and that the damage costs all of us — including them. We can try to beef up operating systems and ISPs and the Internet. But ultimately, users are the ones who can stop those weapons of mass Destruction — maybe the only ones.

Education may not be much. But until we come up with a better idea, it's all we've got. **44569**



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### It's All in the Debugging

This VP of IT regularly assigns impossible deadlines, fails to provide resources and generates a high stress level. "The extreme stress caused many employees to frequently call in sick," says pilot fish at the company. No, it can't be the stress that's doing it, VP decides — it must be germs in the ice machine. "He had the machine completely disinfected and then handed out cans of Lysol for us to spray our cubicles each night," fish says. "Everyone still continued to call in sick, and most left for other jobs, but we did have the most germ-free environment in the company."

### Not Your Job

Confidential information for this project needs to be destroyed, so on his break this pilot fish decides to feed the shredder. "The president walked by, saw what I was doing and said developers shouldn't spend their time doing this," reports fish. Give it to an admin, says the prez. "Now, when I need a break, I play games and let someone else shred documents," fish says. "The president is happier this way."

### Go Team!

Notoriously clueless sales VP complains that his mouse doesn't work, and right away this IT pilot fish can see why. "He put tape on the bottom of the optical mouse because he thought the laser would damage his eyes," fish grumbles. "He didn't understand why the mouse wouldn't work after that. After secretly taking off the tape, I told him the problem was his mouse pad for a college basketball team I disliked."

### Gee, Thanks

It's late in the day, and these high schoolers are



doing homework in the computer lab when a maintenance man

walks in. "Without saying a word, he pulls the main power switch," says a net admin pilot fish on the scene. "Needless to say, there's a panic — the kids just lost all their homework. 'What are you doing?' they say. 'We didn't back all our work up! So the maintenance guy turns everything back on and says, 'OK, you can back up now. But after that, I'm gonna have to work on these lights.'"

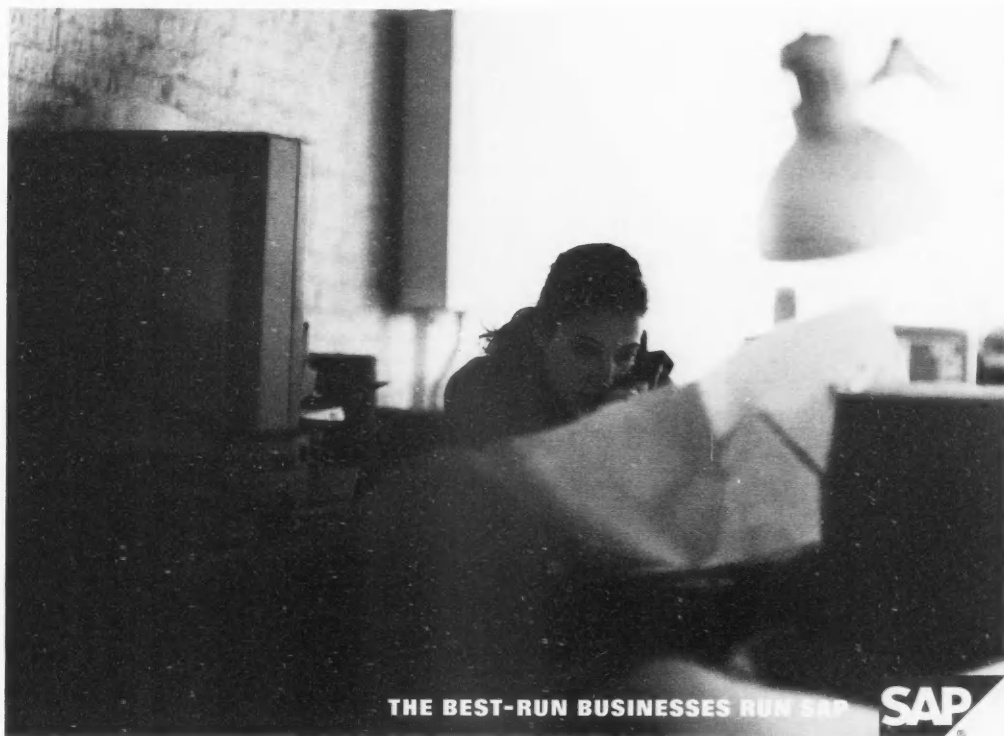
### Let's Walk Through This Again . . .

This user on the frequent-caller plan tells help desk pilot fish she needs her password reset — again. User says she's having trouble remembering the complicated passwords required by a new IT policy. Have you considered writing your password down and hiding it somewhere? fish asks. "Yes," says user. "I wrote it down yesterday and put it in my shoe, but I'm wearing a different pair today."



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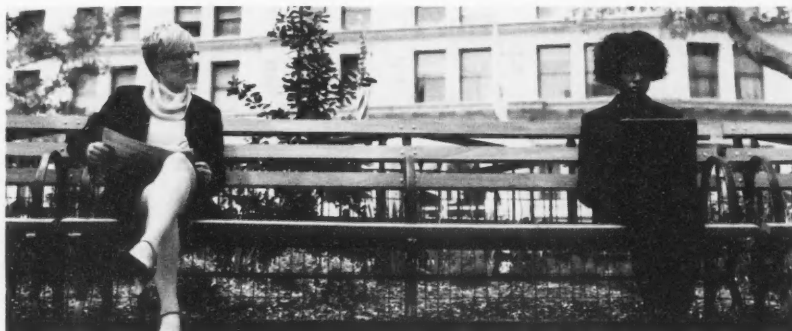


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